FULL-LENGTH PRACTICE TESTS 10 - ANSWERS AND EXPLANATIONS

English

TIME: 35 Minutes—50 Questions

DIRECTIONS: In the five passages that follow, certain words and phrases are underlined and numbered. In the answer choices, you will find alternatives for each underlined part. Choose the best alternative, or select "NO CHANGE" if the original version is correct.

You will also find questions preceded by numbers in brackets [like this]. These questions ask about a section of the passage or the passage as a whole, such as organization, adding or deleting sentences, or overall effectiveness. These questions do not refer to a bolded portion.

For each question, choose the best answer and fill in the corresponding oval on your answer document.

Important: Read each complete passage before answering its questions. Many questions require you to read several sentences beyond the question to determine the correct answer.

PASSAGE I

Discovering My Family's Immigration Story

Last year, my grandmother handed me a small wooden box she had kept in her closet for decades. (1) Inside were yellowed documents, faded photographs, and letters written in a language I couldn't read. These weren't just old papers they were fragments of a journey (2) that had brought my family from a small village in Poland to America in 1923.

My great-grandparents, Josef and Anna, left everything they knew when they boarded a ship in Hamburg, Germany their destination was Ellis Island. (3) They traveled with three children under the age of ten, carrying only what they could fit in two battered suitcases. The crossing took sixteen days and the conditions in steerage were cramped and unsanitary. (4)

[5] Ellis Island must have been overwhelming. Thousands of immigrants arrived each day, speaking dozens of different languages. Officials examined newcomers for signs of disease checking eyes, asking questions, and making rapid decisions (6) about who could enter the country. One of the letters in my grandmother's box described this experience the writer expressed relief (7) at passing the medical inspection.

My great-grandparents settled in Cleveland, Ohio, where Josef found work in a steel mill. The job was dangerous and exhausting but it provided a steady income. (8) Anna took in laundry and sewing to supplement their earnings. Despite working constantly, they lived in a tiny apartment that they shared with another immigrant family from their village. (9)

The letters reveal struggles I hadn't imagined. My great-grandmother wrote to her sister in Poland describing how her childrens' (10) English improved much faster than hers, creating communication barriers within the family. She wrote about missing familiar foods, traditional celebrations, and the landscape of her homeland.

[11] Yet the letters also express hope and pride. Within five years, Josef and Anna had saved enough to rent their own apartment. Their children graduated from high school, something that hadn't been possible in their village. The youngest child, my grandmother's mother, eventually became a teacher.

Reading these letters changed how I understood my family's story. Immigration wasn't just a historical event that happened long ago it was a series of courageous decisions (12) made by real people facing impossible choices. Every comfort I take for granted—education, opportunity, security—exists because two people I never met were willing to leave everything familiar and start over in a country where they didn't speak the language.

My grandmother says she kept these documents hidden for years because she wanted to forget the poverty and discrimination her parents endured. Now she realizes that those struggles were part of a larger story worth preserving. (13) [14] I've started digitizing the documents and translating the letters, creating an archive for future generations.

[15]

(1) Which choice best maintains the past tense established in the passage?

A. NO CHANGE

B. had kept in her closet for decades.

C. keeps in her closet for decades.

D. has kept in her closet for decades.

(2) What is the correct way to fix this run-on sentence?

F. NO CHANGE

G. papers, they were fragments of a journey

H. papers; they were fragments of a journey

J. papers they were fragments, of a journey

(3) What is the correct punctuation to separate these clauses?

A. NO CHANGE

B. knew, when they boarded a ship in Hamburg, Germany their destination was Ellis Island.

C. knew when they boarded a ship in Hamburg, Germany. Their destination was Ellis Island.

D. knew when they boarded a ship in Hamburg Germany, their destination was Ellis Island.

(4) What is the correct punctuation to join these clauses?

F. NO CHANGE

G. days, and the conditions in steerage were cramped and unsanitary.

H. days; and the conditions in steerage were cramped and unsanitary.

J. days. And the conditions in steerage were cramped and unsanitary.

[5] The writer wants to add a sentence here that would effectively transition from the journey to the arrival. Which choice best accomplishes this goal?

A. Ellis Island processed millions of immigrants during its years of operation.

B. Many immigrants feared the inspection process at Ellis Island.

C. After the long voyage, the family finally arrived at Ellis Island in New York harbor.

D. Ships arriving from Europe typically docked at Ellis Island or other ports.

(6) What is the correct punctuation for this series of actions?

F. NO CHANGE

G. disease, checking eyes asking questions, and making rapid decisions

H. disease checking eyes, asking questions and making rapid decisions

J. disease, checking eyes, asking questions and, making rapid decisions

(7) What is the correct way to structure this sentence?

A. NO CHANGE

B. described this experience, the writer expressed relief

C. described this experience; the writer expressed relief

D. described this experience. The writer expressed relief

(8) What is the correct punctuation to join these contrasting clauses?

F. NO CHANGE

G. exhausting, but it provided a steady income.

H. exhausting; but it provided a steady income.

J. exhausting. But it provided a steady income.

(9) What is the correct punctuation for this restrictive clause?

A. NO CHANGE

B. that, they shared with another immigrant family from their village.

C. that they shared with another immigrant family, from their village.

D. that they shared, with another immigrant family from their village.

(10) Which form correctly shows possession?

F. NO CHANGE

G. children's

H. childrens

J. children'

[11] The writer is considering deleting the following sentence from this paragraph:

"Their children graduated from high school, something that hadn't been possible in their village."

Should the sentence be kept or deleted?

A. Kept, because it provides a specific example of the opportunities immigration created.

B. Kept, because it explains why the family decided to immigrate.

C. Deleted, because it contradicts information provided earlier about education in Poland.

D. Deleted, because it shifts focus away from Josef and Anna's achievements.

(12) What is the correct way to fix this run-on sentence?

F. NO CHANGE

G. ago; it was a series of courageous decisions

H. ago, it was a series of courageous decisions

J. ago. It was a series of courageous decisions

(13) Which choice provides the most effective transition to the next sentence?

A. NO CHANGE

B. that those struggles should be forgotten and left in the past.

C. that her parents worked extremely hard in difficult circumstances.

D. that immigration history interests many people today.

[14] At this point, the writer wants to add a sentence that connects the grandmother's change in perspective to the narrator's actions. Which choice best accomplishes this goal?

F. Many families have similar immigration stories that deserve to be documented.

G. Immigration records are often available through historical archives and libraries.

H. Her decision to share these documents inspired me to ensure they wouldn't be lost.

J. Digital technology has made it much easier to preserve historical documents.

[15] Suppose the writer's goal had been to write an essay examining the process of immigration through Ellis Island. Would this essay successfully accomplish that goal?

A. Yes, because it describes the medical inspections that immigrants underwent.

B. Yes, because it provides detailed information about Ellis Island's operations.

C. No, because it focuses primarily on one family's personal immigration experience.

D. No, because it does not mention Ellis Island at all.

PASSAGE II

The Science of Sleep

Most people understand that sleep is important but few realize just how essential it is (16) for nearly every aspect of human health and functioning. Sleep isn't simply a period of inactivity; it's a complex biological process during which the brain and body perform crucial maintenance tasks these tasks cannot be completed during waking hours. (17)

[18] During sleep, the brain consolidates memories, transferring information from short-term to long-term storage. This process explains why students who study material before sleeping often retain it better than those who study it in the morning before a test. (19) Sleep deprivation impairs this consolidation, making it harder to learn new information and recall existing knowledge.

The body also uses sleep time for physical repair. Growth hormone is released which helps (20) rebuild muscle tissue, strengthen bones, and support the immune system. Athletes who get adequate sleep recover faster from training and perform better in competition than those who don't. (21)

Despite these benefits, many people chronically under-sleep. The Centers for Disease Control estimates that one-third of American adults regularly get less than seven hours of sleep per night the recommended minimum for health. (22) The reasons are numerous: work obligations, family responsibilities, social activities, and the addictive pull of electronic devices that emit blue light, which suppresses melatonin production and makes falling asleep more difficult. (23)

The consequences of insufficient sleep extend beyond feeling tired. Chronic sleep deprivation increases the risk of obesity, diabetes, cardiovascular disease, and depression it impairs judgment (24) and reaction time, contributing to accidents. One study found that being awake for 18 hours produces impairment equivalent to having a blood alcohol concentration of 0.05%—nearly the legal limit for driving.

Improving sleep requires what experts call "sleep hygiene," a set of practices that promote consistent, quality rest. These include maintaining a regular sleep schedule even on weekends keeping the bedroom (25) cool and dark, avoiding caffeine in the afternoon, and establishing a relaxing pre-sleep routine. Perhaps most importantly, it means putting away phones and tablets at least an hour before bed.

[26] The cultural attitude toward sleep is slowly changing. While previous generations often viewed sleep as laziness or wasted time, current research emphasizes it's (27) critical importance. Companies are beginning to recognize that well-rested employees are more productive, creative, and less prone to errors. Some forward-thinking organizations now provide nap rooms or encourage flexible schedules that allow employees (28) to sleep according to their natural rhythms.

Understanding sleep's (29) biological necessity should shift how we prioritize it in our lives. Sleep isn't a luxury or an indulgence it's a fundamental requirement (30) for health, much like nutrition or exercise. Making time for adequate sleep might mean saying no to other activities, but the benefits—improved mood, better health, enhanced cognitive function—make that trade-off worthwhile.

(16) What is the correct punctuation to join these clauses?

F. NO CHANGE

G. important, but few realize just how essential it is

H. important; but few realize just how essential it is

J. important but, few realize just how essential it is

(17) What is the correct way to fix this run-on sentence?

A. NO CHANGE

B. tasks; these tasks cannot be completed during waking hours.

C. tasks, these tasks cannot be completed during waking hours.

D. tasks these tasks, cannot be completed during waking hours.

[18] The writer wants to add a sentence here that introduces the specific benefits of sleep discussed in the following paragraphs. Which choice best accomplishes this goal?

F. Scientists have studied sleep patterns for decades using various research methods.

G. The benefits of sleep fall into two main categories: cognitive and physical.

H. Different animals require different amounts of sleep depending on their species.

J. Most adults need between seven and nine hours of sleep each night.

(19) Which choice provides the most logical comparison in this sentence?

A. NO CHANGE

B. it the day after.

C. the same material immediately before taking a test.

D. information right before class.

(20) What is the correct punctuation to introduce this explanatory clause?

F. NO CHANGE

G. released, which helps

H. released; which helps

J. released. Which helps

(21) What is the correct punctuation for this comparison?

A. NO CHANGE

B. competition, than those who don't.

C. competition; than those who don't.

D. competition than those, who don't.

(22) What is the correct way to connect this appositive phrase?

F. NO CHANGE

G. night, the recommended minimum for health.

H. night; the recommended minimum for health.

J. night. The recommended minimum for health.

(23) What is the correct punctuation for this clause?

A. NO CHANGE

B. production, and makes falling asleep more difficult.

C. production, and making falling asleep more difficult.

D. production; and makes falling asleep more difficult.

(24) What is the correct way to fix this run-on sentence?

F. NO CHANGE

G. depression; it impairs judgment

H. depression, it impairs judgment

J. depression. It impairs judgment

(25) What is the correct punctuation for this series?

A. NO CHANGE

B. schedule, even on weekends, keeping the bedroom

C. schedule even on weekends, keeping the bedroom

D. schedule, even on weekends keeping, the bedroom

[26] The writer is considering adding the following sentence at this point:

"Many cultures around the world have traditionally valued afternoon siestas or rest periods."

Should the writer make this addition?

F. Yes, because it provides historical context for current sleep recommendations.

G. Yes, because it supports the paragraph's point about changing attitudes toward sleep.

H. No, because it contradicts the statement that attitudes are changing.

J. No, because it introduces information not directly relevant to the paragraph's focus on current workplace changes.

(27) Which form correctly shows possession?

A. NO CHANGE

B. its

C. its'

D. it is

(28) What is the correct punctuation for this phrase?

F. NO CHANGE

G. or encourage flexible schedules, that allow employees

H. or, encourage flexible schedules that allow employees

J. or encourage, flexible schedules that allow employees

(29) Which form correctly shows possession?

A. NO CHANGE

B. sleeps

C. sleeps'

D. sleep's

(30) What is the correct way to fix this run-on sentence?

F. NO CHANGE

G. indulgence; it's a fundamental requirement

H. indulgence, it's a fundamental requirement

J. indulgence—it's a fundamental requirement

PASSAGE III

Building a Tiny House

When I told my friends I was building a tiny house, most of them thought I was joking. Why would anyone voluntarily live in a space smaller than most peoples' (31) garages? But after years of feeling overwhelmed by possessions and mortgage payments, I was ready for a radical change.

The tiny house movement has grown significantly in recent years, with people choosing to downsize their living spaces dramatically. (32) Tiny houses typically range from 100 to 400 square feet, compared to the average American home of about 2,600 square feet. Living tiny means owning less, spending less, and having more freedom and financial flexibility. (33)

[34] I started by watching countless YouTube videos and reading building guides. The design phase took months. Every inch had to serve multiple purposes a table that folded into a wall a bed that stored clothing underneath, stairs that doubled as drawers. (35) I drew and redrew floor plans, trying to accommodate the essentials: sleeping area, kitchen, bathroom, and workspace.

The construction process taught me skills I never imagined Id (36) have. I learned to frame walls, install electrical wiring, and connect plumbing. Some tasks required professional help particularly (37) the roof and the electrical panel connection, but I completed most of the work myself over the course of a year.

Living in a tiny house has exceeded my expectations in some ways and challenged me in others. The benefits are clear I save (38) money on utilities, spend less time cleaning, and feel liberated from the burden of maintaining too much stuff. I've discovered that I don't miss most of the possessions I gave away they were taking up space without adding value to my life. (39)

However, tiny living isn't without challenges. [40] Hosting guests is difficult when you don't have a guest room or even a proper couch. Storage limitations mean I can't impulse-buy items because I simply don't have space for them. The close quarters can feel confining during long winters when I can't spend time outside.

Despite these limitations, I don't regret my decision. The tiny house has given me something more valuable than square footage it's (41) given me intentionality. Every item I own must justify its presence. Every purchase requires consideration. I spend less time maintaining my home and more time living my life hiking, traveling, and pursuing hobbies (42) I never had time for before.

[43] The tiny house movement isn't for everyone, and that's fine. But for those feeling trapped by housing costs, possessions, or simply the maintenance demands of traditional homes, it offers an alternative worth considering. My 250-square-foot house has taught me that freedom doesn't come from having more space it comes from needing less. (44)

[45]

(31) Which form correctly shows possession?

A. NO CHANGE

B. most people's

C. most peoples

D. most people'

(32) Which choice provides the most specific and relevant information?

F. NO CHANGE

G. people making interesting lifestyle choices about housing.

H. individuals exploring alternative living arrangements.

J. Americans rethinking their housing needs and priorities.

(33) What is the correct punctuation for this series?

A. NO CHANGE

B. and having more freedom, and financial flexibility.

C. and, having more freedom and financial flexibility.

D. and having more freedom; and financial flexibility.

[34] The writer wants to add a sentence here that effectively transitions from the general description of tiny houses to the narrator's personal experience. Which choice best accomplishes this goal?

F. Many companies now sell tiny house plans and kits for interested builders.

G. Zoning laws in some areas make it difficult to legally place tiny houses.

H. Once I decided to join the movement, I began planning my own tiny house.

J. The average tiny house costs between $20,000 and $50,000 to build.

(35) What is the correct punctuation for this series of examples?

A. NO CHANGE

B. purposes: a table that folded into a wall, a bed that stored clothing underneath, stairs that doubled as drawers.

C. purposes a table that folded into a wall, a bed that stored clothing underneath, stairs that doubled as drawers.

D. purposes; a table that folded into a wall; a bed that stored clothing underneath; stairs that doubled as drawers.

(36) Which contraction is spelled correctly?

F. NO CHANGE

G. I'd

H. I'ld

J. Id'

(37) What is the correct punctuation to set off this parenthetical phrase?

A. NO CHANGE

B. help, particularly

C. help; particularly

D. help. Particularly

(38) What is the correct way to structure this sentence?

F. NO CHANGE

G. benefits are clear: I save

H. benefits are clear, I save

J. benefits are clear; and I save

(39) What is the correct punctuation to connect this explanatory clause?

A. NO CHANGE

B. away, they were taking up space without adding value to my life.

C. away they were taking up space, without adding value to my life.

D. away. They were taking up space, without adding value to my life.

[40] The writer is considering adding the following sentence at this point:

"The tiny house measures just 8 feet wide and 20 feet long, built on a trailer for mobility."

Should the writer make this addition?

F. Yes, because it provides specific dimensions that help readers visualize the space.

G. Yes, because it explains why hosting guests is difficult.

H. No, because the dimensions were already mentioned earlier in the passage.

J. No, because specific measurements are not relevant to the paragraph's discussion of challenges.

(41) Which choice correctly uses the pronoun?

A. NO CHANGE

B. its

C. it is

D. its'

(42) What is the correct punctuation to introduce this explanatory list?

F. NO CHANGE

G. life: hiking, traveling, and pursuing hobbies

H. life, hiking, traveling, and pursuing hobbies

J. life; hiking, traveling, and pursuing hobbies

[43] The writer wants to add a sentence here that acknowledges potential criticisms of tiny living before defending the choice. Which choice best accomplishes this goal?

A. Tiny houses have become increasingly popular in recent years across the country.

B. Some people criticize tiny living as impractical or just a trendy fad.

C. Building codes and zoning regulations vary significantly by location.

D. Many tiny house dwellers eventually return to traditional housing.

(44) What is the correct way to structure this sentence?

F. NO CHANGE

G. space; it comes from needing less.

H. space, it comes from needing less.

J. space. It comes from needing less.

[45] Suppose the writer's goal had been to write an essay providing detailed instructions for building a tiny house. Would this essay successfully accomplish that goal?

A. Yes, because it describes the design and construction process in detail.

B. Yes, because it mentions specific building tasks like framing and electrical work.

C. No, because it focuses primarily on the personal experience and philosophy of tiny living rather than construction details.

D. No, because it does not mention any building techniques or materials.

PASSAGE IV

The Lost Art of Letter Writing

In an age of instant messaging and email, the handwritten letter has become almost obsolete few people under thirty (46) have ever written or received a personal letter on paper. Yet something valuable has been lost in this shift to digital communication—the intimacy, thoughtfulness, and permanence that letters once provided.

My grandmother kept every letter she received during her eighty-nine years. Stored in a cedar chest in her attic were hundreds of letters spanning decades these letters documented (47) relationships, historical events, and the everyday details of life that rarely make it into history books. Reading through them after she passed away, I gained insights into her life that conversations had never revealed.

[48] Letters require time and effort you must (49) sit down with paper and pen, compose your thoughts, address an envelope, and mail it. This investment of time creates a different kind of communication than a hastily typed text message. The writer must consider what they want to say and how to say it clearly and completely since there's no (50) immediate back-and-forth to clarify misunderstandings.

(46) What is the correct way to fix this run-on sentence?

F. NO CHANGE

G. obsolete, few people under thirty

H. obsolete; few people under thirty

J. obsolete. Few people under thirty

(47) What is the correct way to fix this run-on sentence?

A. NO CHANGE

B. decades; these letters documented

C. decades, these letters documented

D. decades. These letters documented

[48] The writer wants to add a sentence here that explains why the act of letter writing creates different communication. Which choice best accomplishes this goal?

F. Many famous historical figures wrote thousands of letters during their lifetimes.

G. The physical process of writing by hand engages the brain differently than typing.

H. Postage costs have increased significantly over the past several decades.

J. Some people collect vintage stamps and envelopes as a hobby.

(49) What is the correct punctuation for this sentence?

A. NO CHANGE

B. effort: you must

C. effort; you must

D. effort, you must

(50) What is the correct punctuation for this complex clause?

F. NO CHANGE

G. and how to say it clearly and completely, since there's no

H. and, how to say it clearly and completely since there's no

J. and how to say it clearly and completely; since there's no

Mathematics

TIME: 50 minutes for 45 questions

DIRECTIONS: Each question has four answer choices. Choose the best answer for each question and shade the corresponding oval on your answer sheet.

1. What is the value of $3(x - 4) + 2x$ when $x = 5$?

A. 7

B. 9

C. 13

D. 23

2. If $2x + 7 = 19$, then $x = ?$

A. 5

B. 6

C. 12

D. 26

3. Which of the following is equivalent to $4(2x + 3)$?

A. $8x + 12$

B. $8x + 3$

C. $6x + 7$

D. $2x + 12$

4. A shirt originally priced at $40 is on sale for 25% off. What is the sale price?

A. $10

B. $15

C. $25

D. $30

5. What is the slope of a line passing through the points (2, 5) and (6, 13)?

A. 1

B. 2

C. 3

D. 4

6. If $f(x) = 2x^2 - 3x + 1$, what is $f(3)$?

A. 4

B. 7

C. 10

D. 19

7. What is the value of $|-8 + 3|$?

A. 5

B. −5

C. 11

D. −11

8. In a class of 30 students, 18 are girls. What percent of the class are girls?

A. 18%

B. 30%

C. 50%

D. 60%

9. If $5x - 3 = 2x + 9$, then $x = ?$

A. 2

B. 4

C. 6

D. 12

10. What is the area of a rectangle with length 8 cm and width 5 cm?

A. 13 cm^2

B. 26 cm^2

C. 40 cm^2

D. 80 cm^2

11. Which of the following is equivalent to $(x + 3)(x - 5)$?

A. $x^2 - 15$

B. $x^2 + 3x - 5$

C. $x^2 - 8x - 15$

D. $x^2 - 2x - 15$

12. If 3/4 of a number is 24, what is the number?

A. 32

B. 18

C. 28

D. 36

13. What is the distance between points (1, 2) and (4, 6) in the coordinate plane?

A. 3

B. 4

C. 5

D. 7

14. If $x^2 = 49$, what are all possible values of x?

A. 7 only

B. 7 and −7

C. 49 only

D. 49 and −49

15. A sequence begins 2, 5, 8, 11, 14, ... What is the 10th term?

A. 26

B. 27

C. 28

D. 29

16. What is 35% of 80?

A. 28

B. 24

C. 32

D. 35

17. If triangle ABC has angles measuring 45°, 60°, and x°, what is the value of x?

A. 65

B. 70

C. 75

D. 85

18. Which of the following is a factor of $x^2 - 9$?

A. (x - 3) only

B. (x + 3) and (x - 3)

C. (x + 9) only

D. $(x^2 - 3)$

19. What is the circumference of a circle with radius 7 inches? (Use $\pi \approx 3.14$)

A. 21.98 inches

B. 38.94 inches

C. 43.96 inches

D. 43.96 inches (approximately 44 inches)

20. If y = 3x - 2 and x = 4, what is the value of y?

A. 10

B. 14

C. 6

D. 8

21. What is the value of $\sqrt{(64)} + \sqrt{(36)}$?

A. 10

B. 14

C. 100

D. 18

22. In the equation $2x + 3y = 12$, if $x = 3$, what is y?

A. 1

B. 3

C. 2

D. 4

23. What is the median of the following set of numbers: 3, 7, 2, 9, 5, 4, 8?

A. 4

B. 4.5

C. 6

D. 5

24. If a car travels 240 miles in 4 hours, what is its average speed in miles per hour?

A. 60 mph

B. 50 mph

C. 70 mph

D. 80 mph

25. What is the value of $2^3 \times 2^2$?

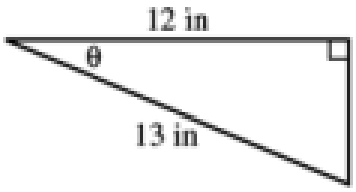
A. 16

B. 32

C. 64

D. 128

26. A right triangle is shown in the figure below. What is the value of sin θ?



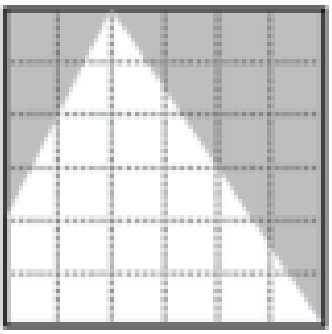
A. 5/13

B. 5/12

C. 12/13

D. 13/12

27. A 6-inch-by-6-inch square grid shown below is divided into 36 squares by the grid lines. Two opposite vertices of the square are connected by a diagonal. Each vertex of the 2 shaded triangles lies at an intersection of 2 grid lines. What fractional part of the 6-inch-by-6-inch square is shaded?



A. 4/9

B. 1/2

C. 5/9

D. 5/8

28. Which of the following expressions is equivalent to $3x(2x - 4)$?

A. $6x - 4$

B. $5x^2 - 12x$

C. $6x^2 - 4$

D. $6x^2 - 12x$

29. If $\log_2(x) = 5$, then $x = ?$

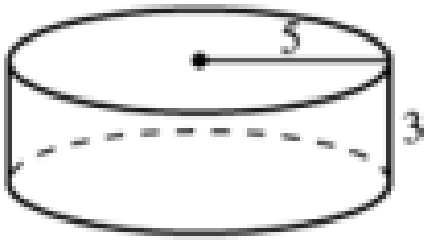
A. 10

B. 32

C. 25

D. 64

30. A formula for the volume, V, of a right circular cylinder is $V = \pi r^2 h$, where r is the radius and h is the height. The cylindrical tank shown below has a radius of 5 meters and height 3 meters and is filled with water.



Given that the weight of 1 cubic meter of water is approximately 2,205 pounds, the weight, in pounds, of the water in the tank is:

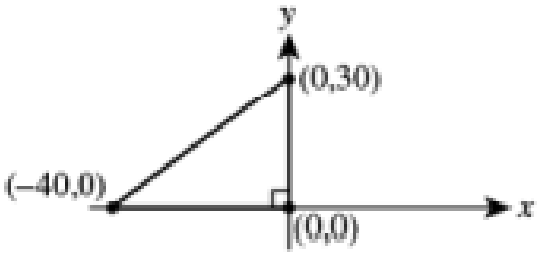
A. less than 200,000.

B. between 200,000 and 300,000.

C. between 300,000 and 500,000.

D. between 500,000 and 1,000,000.

31. Graphed in the standard (x,y) coordinate plane below is a right triangle with vertices at (−40,0), (0,0), and (0,30). What is the length, in coordinate units, of the hypotenuse of the triangle?



A. 50

B. 35

C. 40

D. 45

32. What is the solution set for the inequality $2x - 5 < 7$?

A. $x < 1$

B. $x < 2$

C. $x < 6$

D. $x < 6$

33. If matrix A = [2 3; 1 4] and matrix B = [1 0; 2 1], what is A + B?

A. [3 3; 3 4]

B. [3 3; 3 5]

C. [2 3; 2 5]

D. [3 0; 3 5]

34. What is the least common multiple (LCM) of 12 and 18?

A. 6

B. 24

C. 36

D. 216

35. In the standard (x,y) coordinate plane, what is the equation of the line perpendicular to $y = 2x + 3$ that passes through the origin?

A. $y = -1/2\ x$

B. $y = 2x$

C. $y = -2x$

D. $y = 1/2\ x$

36. A bag contains 5 red marbles, 3 blue marbles, and 2 green marbles. If one marble is selected at random, what is the probability it is NOT red?

A. 1/2

B. 3/10

C. 1/5

D. 1/2

37. What is the value of $\cos(60°)$?

A. $\sqrt{3}/2$

B. 1/2

C. 1

D. $\sqrt{2}/2$

38. If $f(x) = x^2 + 2x - 3$, for what values of x does $f(x) = 0$?

A. $x = 1$ and $x = 3$

B. $x = -1$ and $x = 3$

C. $x = -3$ and $x = 1$

D. $x = 3$ and $x = -3$

39. What is the area of a circle with diameter 10 cm? (Use $\pi \approx 3.14$)

A. 78.5 cm^2

B. 31.4 cm^2

C. 314 cm^2

D. 100 cm^2

40. If 2^x = 64, what is the value of x?

A. 4

B. 5

C. 32

D. 6

41. What is the sum of the interior angles of a hexagon?

A. 540°

B. 720°

C. 900°

D. 1080°

42. Which of the following is equivalent to $(2x^3y^2)(3x^2y^4)$?

A. $5x^5y^6$

B. $6x^5y^6$

C. $6x^6y^6$

D. $6x^5y^8$

43. If the ratio of boys to girls in a class is 3:5 and there are 24 students total, how many are girls?

A. 15

B. 9

C. 12

D. 18

44. What is the value of sin(90°)?

A. 0

B. 1/2

C. √2/2

D. 1

45. A rectangle has length that is 3 more than twice its width. If the width is w, which expression represents the perimeter?

A. 6w + 3

B. 6w + 6

C. 4w + 6

D. 3w + 3

Reading

TIME: 40 minutes for 36 questions

DIRECTIONS: Each of the four passages in this section is followed by ten questions. Answer each question based on what is stated or implied in the passage and shade the corresponding oval on your answer sheet.

PASSAGE I — LITERARY NARRATIVE

This passage is adapted from a contemporary short story about a musician returning to her childhood home.

The piano had been silent for seventeen years, its keys yellowed like old teeth, its strings long past proper tuning. Yet when I pressed middle C, the note rang out true enough to break something open inside me—some sealed compartment where I'd stored all the reasons I'd left this house, this town, this instrument that had once defined my entire existence.

My mother stood in the doorway of what we'd always called the music room, though it now served primarily as storage for cardboard boxes and forgotten furniture. "I didn't think you'd want to see it," she said. "You made it clear when you left that you were done with all this."

I had been seventeen when I walked away from the scholarship to the conservatory, the teacher who'd trained me since I was six, the Sunday recitals at the community center where I'd performed Mozart and Chopin for audiences who clapped politely but clearly preferred the folk music played at the local tavern. I'd traded classical piano for an electric keyboard in a rock band, concert halls for dive bars, and eventually music itself for a stable job selling insurance in a city four hundred miles away.

"I didn't say I was done," I told her now, though we both knew that was exactly what I'd said, exactly what I'd meant. "I said I needed something different."

The piano had belonged to my grandmother, purchased in 1952 when she was newly married and filled with ambitions for the daughter she hoped to have. That daughter—my mother—had shown no aptitude for music whatsoever, a disappointment my grandmother bore with visible frustration. When I arrived, her first grandchild, she'd begun my lessons before I could even read. I don't remember a time when I couldn't play.

Mrs. Chen, my teacher, had called me a prodigy. My grandmother called me her legacy. My mother called me driven, talented, obsessed. What I called myself changed depending on the day and the piece I was struggling to master. Some days I felt like an artist. Others, like a trained seal performing tricks for fish.

The scholarship offer came during my junior year of high school: full tuition to study with renowned faculty, placement in the pre-professional track, networking with visiting artists and conductors. My grandmother cried with joy. Mrs. Chen embraced me. My mother looked worried. "Do you want this?" she asked me later. "Or do you want what everyone expects?"

I hadn't known how to answer then. I'd practiced six hours a day since I was eight years old. I'd won regional competitions, performed in state showcases, received accolades that made my grandmother beam with satisfaction. But somewhere in all those hours of scales and arpeggios, sonatas and études, I'd lost track of whether I loved music or simply couldn't imagine doing anything else.

The breaking point came at a recital three months before graduation. I was midway through Rachmaninoff's Prelude in C-sharp Minor—a piece I'd performed flawlessly dozens of times—when my hands simply stopped. Not a mistake, not a forgotten measure, but a complete cessation of motion. I sat frozen at the keyboard while the audience waited. Mrs. Chen gestured frantically from the front row. My grandmother's face went pale.

Eventually I stood, walked offstage, and never returned.

That night I told my parents I was turning down the scholarship. My grandmother refused to speak to me. Mrs. Chen called it a nervous breakdown, a temporary crisis that proper rest would resolve. But I knew it was something else: a moment of clarity in which I'd realized I was living someone else's dream.

I joined a band, played keyboards for their indie rock songs, and discovered music could be joyful rather than perfectionistic. When that band dissolved after two years, I found another, and another. Eventually I stopped finding bands at all and took the insurance job, telling myself I was being practical, that music had been a phase, that I'd moved on.

Now, standing in my childhood home with my mother watching from the doorway, I played a few measures of something I'd written myself years ago—a simple melody I'd never showed anyone, never even finished. The piano's imperfect tuning gave it a haunting quality, like a memory slightly distorted by time.

"Your grandmother wanted you to have it," my mother said quietly. "It's been in her will for years. When she died last month, she'd left instructions that I was only to tell you about it if you came home for the funeral."

I hadn't come for the funeral. I'd sent flowers and a card with a generic message about sympathy and loss, the kind of thing I wrote for clients every day. I'd told myself I was too busy, that we hadn't been close in years anyway, that she'd probably prefer I stayed away.

"I thought you should know she told me, near the end, that she was wrong," my mother continued. "She said she'd confused her dream with yours, that she was sorry for the pressure, that she hoped you'd found whatever it was you were looking for."

My hands found a chord progression—nothing classical, nothing I'd learned from sheet music, just something that felt right. "I haven't found it yet," I said. "But maybe I stopped looking in the wrong places."

My mother smiled. "The piano's yours if you want it. Or we can sell it, donate it, whatever you prefer. But either way, maybe it's time to decide what you want rather than what you don't."

I played for another hour after she left the room. Nothing polished, nothing performed. Just sound and silence, mistakes and corrections, the feeling of fingers on keys and the resonance of strings vibrating in their wooden chamber. The piano would need tuning, regulation, repair. But so would I. Perhaps we could be restored together, or perhaps we'd both remain beautifully imperfect, finding meaning in the music we made despite our flaws.

When I finally stood to leave, I knew I'd be back tomorrow, and the day after that. Not because I had to, not because anyone expected it, but because after seventeen years of running from expectations, I was finally ready to discover what I actually wanted to play.

1. The narrator's initial reaction to pressing middle C on the piano can best be described as:

A. disappointment at how out of tune the instrument had become.

B. an emotional response triggered by reconnecting with her past.

C. satisfaction that she had successfully escaped classical music.

D. surprise that the piano still produced recognizable notes.

2. According to the passage, the narrator walked away from classical piano when she was:

F. a college student at the conservatory.

G. in her mid-twenties playing in rock bands.

H. seventeen years old, before attending the conservatory.

J. a child who had grown tired of constant practice.

3. The passage indicates that the piano originally belonged to:

A. the narrator's mother, who passed it down.

B. Mrs. Chen, the narrator's piano teacher.

C. a music school that lent it to the family.

D. the narrator's grandmother, purchased in 1952.

4. Based on the passage, the narrator's mother's response to the scholarship offer can best be characterized as:

F. concerned about whether the narrator truly wanted it.

G. enthusiastic about the professional opportunities.

H. disappointed that the narrator might leave home.

J. indifferent to the narrator's decision either way.

5. The narrator describes her breaking point during the Rachmaninoff performance as:

A. forgetting a measure due to inadequate preparation.

B. making technical mistakes that embarrassed her.

C. her hands completely stopping mid-performance.

D. feeling physically ill and unable to continue.

6. The passage suggests that after leaving classical music, the narrator:

F. immediately found fulfillment in rock music and never looked back.

G. played in several bands before eventually leaving music entirely.

H. became a professional rock musician with a successful career.

J. regretted her decision and wished she'd attended the conservatory.

7. According to the passage, the narrator did NOT attend her grandmother's funeral because:

A. she told herself she was too busy and they hadn't been close.

B. she was unaware that her grandmother had died.

C. her grandmother had specifically asked her not to come.

D. she was living abroad and couldn't travel home.

8. The grandmother's message to the narrator, conveyed by the mother, was that:

F. she wanted the narrator to return to classical music immediately.

G. she never understood why the narrator had left music.

H. she remained disappointed in the narrator's choices.

J. she had been wrong to confuse her own dream with the narrator's.

9. By the end of the passage, the narrator's attitude toward the piano can best be described as:

A. reluctant acceptance of a family obligation.

B. willingness to reconnect on her own terms.

C. enthusiasm about returning to classical performance.

D. determination to restore it and sell it for profit.

PASSAGE II — SOCIAL SCIENCE

This passage is adapted from an article about the economic and social impacts of the gig economy.

The term "gig economy" describes a labor market characterized by short-term contracts, freelance work, and temporary positions rather than permanent employment. Enabled by digital platforms like Uber, TaskRabbit, and Upwork, this economic model has grown exponentially over the past decade, fundamentally reshaping the relationship between workers, employers, and the broader economy. What began as a supplement to traditional employment has evolved into a primary income source for millions, raising urgent questions about worker protections, income stability, and the future of work itself.

Proponents of the gig economy emphasize flexibility and autonomy. Gig workers can choose when, where, and how much to work, accommodating family responsibilities, pursuing education, or building multiple income streams. A graphic designer might freelance for several clients simultaneously, controlling her schedule and rates. A driver might work peak hours for maximum earnings, then take midweek days off. This flexibility appeals particularly to caregivers, students, and those seeking work-life balance difficult to achieve in traditional employment.

The economic efficiency arguments are equally compelling. Companies can scale their workforce up or down based on demand without maintaining excess capacity during slow periods. Consumers benefit from lower prices made possible by reduced labor costs. The platforms themselves provide valuable matching services, connecting workers with opportunities they might never have found independently. In this framing, the gig economy represents innovation that benefits all participants through market efficiency.

However, critics argue that flexibility often masks precarity. Gig workers typically lack the protections and benefits associated with traditional employment: no health insurance, no paid leave, no unemployment benefits, no employer contributions to retirement savings. When a rideshare driver gets sick or a freelance writer experiences a slow month, there's no safety net. Income volatility becomes a persistent source of stress, making long-term financial planning nearly impossible.

The classification of gig workers as independent contractors rather than employees lies at the heart of many debates. This distinction determines whether workers receive minimum wage guarantees, overtime pay, workers' compensation, and the right to unionize. Companies defend contractor status by noting that workers maintain flexibility to refuse assignments and work for multiple platforms. Critics counter that this flexibility is largely illusory—algorithms determine which workers receive which opportunities,

workers face deactivation for declining too many assignments, and the need for consistent income leaves little practical ability to refuse work.

Research reveals significant disparities in gig economy experiences. High-skilled workers in fields like consulting, programming, and design often thrive, commanding rates that exceed traditional employment income while maintaining genuine autonomy. Low-skilled workers in fields like ridesharing, delivery, and task services frequently struggle, working long hours for modest pay with minimal control over their conditions. The platform economy, rather than democratizing work opportunity as its rhetoric suggests, may actually be exacerbating inequality by creating a two-tiered system where education and skills determine whether flexibility means freedom or vulnerability.

The COVID-19 pandemic illuminated these tensions dramatically. Essential workers in the gig economy—delivery drivers, grocery shoppers—faced health risks without the protections afforded to traditional employees. Simultaneous demand surges and reduced alternative employment options increased gig work participation, but many workers found themselves in precarious positions when platforms changed policies or algorithms without notice or recourse.

Policy responses have varied widely. Some jurisdictions have passed laws requiring companies to reclassify workers as employees, guaranteeing benefits and protections. California's Assembly Bill 5, for instance, established stricter criteria for independent contractor classification, though subsequent amendments carved out numerous exceptions after intensive lobbying. Other regions have created hybrid categories—workers maintain some flexibility while gaining certain protections like minimum earnings guarantees or accident insurance.

The European Union has proposed directives requiring platforms to prove worker independence through multiple criteria, shifting the burden of proof from workers to companies. Proponents argue this approach protects vulnerable workers without eliminating flexibility for those who genuinely benefit from contractor status. Opponents contend that regulatory intervention will reduce the flexibility that makes gig work appealing, potentially forcing workers into traditional employment they explicitly chose to avoid.

The challenge lies in distinguishing between flexibility that empowers workers and precarity disguised as autonomy. Some scholars propose a new legal category specifically for platform workers, providing baseline protections while preserving schedule flexibility. Others advocate for universal benefits—healthcare, retirement, unemployment insurance—detached from employment status entirely, ensuring all workers maintain economic security regardless of how they earn income.

The gig economy's trajectory will likely depend on these regulatory decisions. Will platforms evolve to provide better conditions voluntarily, recognizing that worker satisfaction affects service quality and retention? Will market forces compel companies to compete on worker treatment as well as consumer prices? Or will regulatory intervention be necessary to ensure that the innovation and efficiency of the platform economy don't come at the expense of worker security and dignity?

Technology continues advancing, with artificial intelligence and automation promising to reshape the gig economy further. As algorithms become more sophisticated in matching workers with opportunities, questions about algorithmic fairness and transparency become more pressing. As automation threatens to eliminate certain gig work entirely, questions about economic transitions and retraining become more urgent.

The gig economy represents a genuine transformation in how work is organized and compensated. Whether this transformation ultimately benefits workers depends on whether policy frameworks can evolve as quickly as technology has, ensuring that flexibility and security aren't mutually exclusive but rather complementary features of dignified work in the twenty-first century. The current moment represents a critical juncture—the decisions made now about worker classification, platform obligations, and social safety nets will shape labor markets for decades to come.

10. The main purpose of the passage is to:

F. argue that the gig economy should be more strictly regulated.

G. examine the benefits, challenges, and policy debates surrounding the gig economy.

H. explain how digital platforms have created employment opportunities.

J. criticize companies for exploiting vulnerable workers.

11. According to the passage, proponents of the gig economy emphasize:

A. the need for stronger worker protections and benefits.

B. the importance of traditional employment relationships.

C. flexibility and autonomy for workers.

D. the role of unions in protecting workers' rights.

12. The passage indicates that gig workers are typically classified as:

F. independent contractors rather than employees.

G. part-time employees with limited benefits.

H. full-time employees with flexible schedules.

J. temporary workers with fixed-term contracts.

13. According to the passage, the distinction between independent contractors and employees is important because it determines whether workers receive:

A. access to digital platforms and work opportunities.

B. minimum wage guarantees, overtime pay, and workers' compensation.

C. training and professional development opportunities.

D. the flexibility to choose their own schedules.

14. The passage suggests that experiences in the gig economy differ significantly based on:

F. the age and gender of the worker.

G. the geographic region where the work occurs.

H. the worker's skill level and type of work performed.

J. the specific platform company the worker uses.

15. According to the passage, California's Assembly Bill 5:

A. banned all gig work within the state.

B. required all gig workers to join unions.

C. eliminated flexibility for independent contractors.

D. established stricter criteria for contractor classification.

16. The passage indicates that during the COVID-19 pandemic, gig economy workers:

F. generally received the same protections as traditional employees.

G. faced health risks without traditional employee protections.

H. stopped working due to lockdown restrictions.

J. saw their incomes increase due to higher demand.

17. The European Union's proposed approach, as described in the passage, would:

A. require platforms to prove worker independence rather than workers proving employee status.

B. ban all platform-based work within EU member states.

C. automatically classify all gig workers as full employees.

D. eliminate regulations on how platforms classify workers.

18. The passage suggests that resolving tensions in the gig economy requires:

F. eliminating all platform-based work models.

G. returning entirely to traditional employment relationships.

H. forcing all workers into independent contractor status.

J. creating policy frameworks that balance flexibility with security.

PASSAGE III — HUMANITIES

This passage is adapted from an essay about the history and cultural impact of jazz music.

Jazz emerged from the cultural crucible of early twentieth-century New Orleans, a city where African rhythms, European harmonies, and Caribbean influences converged in the port city's dance halls, funeral processions, and street parades. What began as an improvised, collective art form practiced by mostly African American musicians would evolve into one of America's most significant cultural exports, influencing everything from classical composition to popular music worldwide while simultaneously reflecting the nation's complex racial dynamics.

The music's origins trace to multiple sources. West African musical traditions—polyrhythmic drumming, call-and-response vocals, improvisation—survived the Middle Passage and slavery, adapting to new circumstances while maintaining essential characteristics. European brass instruments from military bands became available after the Civil War, allowing musicians to blend African rhythmic complexity with European harmonic structures. Blues and spirituals contributed emotional depth and storytelling traditions. Ragtime provided syncopated rhythms and compositional frameworks. From these diverse elements, something entirely new emerged.

Early jazz was fundamentally a collective improvisation. In New Orleans ensembles, multiple instruments—trumpet, clarinet, trombone, piano, banjo, drums—would simultaneously improvise around a melody, creating dense, polyphonic textures where individual voices remained distinct yet interdependent. This collaborative approach reflected communal values; there were no "stars," just musicians contributing to a collective conversation. The music existed primarily in live performance, passed down through apprenticeship rather than written notation, preserving its improvisational essence.

The Great Migration—the mass movement of African Americans from the rural South to urban North—carried jazz to Chicago, New York, Kansas City, and other cities. As the music moved, it changed. Louis Armstrong's innovations in the 1920s transformed jazz from collective improvisation to soloist-centered performance. His virtuosic trumpet playing and innovative scat singing demonstrated how individual expression could coexist with ensemble playing. Armstrong's technical brilliance and charismatic stage presence made him jazz's first genuine celebrity, proving the music could appeal to broad audiences beyond its origins.

Duke Ellington elevated jazz to high art. His compositions for large orchestras demonstrated that jazz could be sophisticated and complex without losing its emotional immediacy or improvisational spirit. Works like "Black, Brown and Beige"—a forty-five-minute tone poem depicting African American history—challenged assumptions about jazz as mere entertainment. Ellington proved jazz could express profound ideas and complex emotions, deserving serious consideration alongside European classical music.

The swing era of the 1930s and 1940s made jazz America's popular music. Big bands led by Benny Goodman, Count Basie, and Glenn Miller filled dance halls and dominated radio. This commercial success came with compromises. Swing arrangements were more structured than earlier jazz, allowing less space for improvisation. More significantly, white bandleaders often achieved greater commercial success than their Black counterparts, even when playing music created by African American artists. Benny Goodman was crowned the "King of Swing" despite learning from Black musicians and employing them in his bands—a pattern that would repeat throughout jazz history, where white performers gained mainstream acceptance while Black innovators remained marginalized.

Bebop emerged in the 1940s as a deliberate reaction against swing's commercialization. Musicians like Charlie Parker, Dizzy Gillespie, and Thelonious Monk created complex, fast-paced music that demanded virtuoso technique and sophisticated harmonic understanding. Bebop wasn't dance music; it was music for concentrated listening, asserting jazz's artistic seriousness. This shift reflected broader cultural currents—bebop musicians were often politically conscious, aware of racial injustice, unwilling to perform for white audiences expecting entertainment rather than art. The music became a form of resistance, asserting Black intellectual and artistic sophistication in an era of continued discrimination.

Modal jazz, pioneered by Miles Davis and John Coltrane in the late 1950s, simplified harmonic structures while expanding improvisational possibilities. Davis's album "Kind of Blue" remains the best-selling jazz recording ever, demonstrating how innovation and accessibility could coexist. Coltrane's spiritual explorations, particularly evident in "A Love Supreme," pushed jazz toward transcendence, music as meditation and prayer.

Free jazz, led by Ornette Coleman and later the Art Ensemble of Chicago, abandoned traditional structures entirely—no preset chord progressions, no regular meters, no boundaries between composition and improvisation. This radical approach alienated many listeners but asserted ultimate freedom, both musical and political. For musicians experiencing the civil rights movement, free jazz became sonic rebellion, refusing constraints whether musical or social.

Jazz's influence extended far beyond its own boundaries. Classical composers from Debussy to Bernstein incorporated jazz elements. Rock musicians from the Beatles to Radiohead drew on jazz harmonies and improvisation. Hip-hop sampled jazz extensively, creating dialogues across generations. Jazz became global, with distinctive styles emerging in Europe, Japan, South America, each region adding local flavors while respecting the music's fundamentals.

Yet jazz has faced challenges in recent decades. As popular music evolved, jazz audiences aged and shrank. Young musicians often studied jazz in university programs, learning from transcriptions and theory books rather than apprenticeship and jam sessions. This academicization preserved the music but arguably diminished its vitality. Current jazz artists wrestle with honoring tradition while remaining relevant, drawing on hip-hop, electronic music, and global influences to create something that respects jazz's past while embracing the present.

The music's racial dynamics remain complex. Jazz is widely recognized as an African American art form, yet its practitioners and audiences now span all backgrounds. Some celebrate this diversity as fulfilling jazz's inclusive spirit; others worry about cultural appropriation, questioning whether jazz maintains connections to the Black communities that created it or has become deracinated, abstracted into technique without cultural context.

What remains undeniable is jazz's profound impact. It demonstrated that art emerging from marginalized communities could achieve universal significance. It showed how structure and freedom, individual and collective, tradition and innovation could coexist productively. It created a musical language that continues evolving, speaking to human experiences across cultures and generations. In its improvisational heart, jazz embodies democracy—multiple voices, distinct yet harmonizing, creating beauty through conversation, conflict, and collaboration.

19. According to the passage, jazz emerged from a convergence of influences including:

A. exclusively European classical music traditions.

B. only African American blues and spirituals.

C. African rhythms, European harmonies, and Caribbean influences.

D. Latin American dance music and Asian scales.

20. The passage indicates that early New Orleans jazz was characterized by:

F. collective improvisation with multiple instruments playing simultaneously.

G. written compositions performed exactly as notated.

H. a focus on solo performances rather than ensemble playing.

J. strict adherence to European classical music conventions.

21. According to the passage, Louis Armstrong's primary innovation was:

A. creating the first jazz big band orchestra.

B. transforming jazz from collective improvisation to soloist-centered performance.

C. inventing bebop as a reaction against commercial swing.

D. developing free jazz without traditional structures.

22. The passage suggests that Duke Ellington's compositions demonstrated that jazz could:

F. only be performed in small clubs and dance halls.

G. never achieve the sophistication of European classical music.

H. be sophisticated and complex while maintaining its improvisational spirit.

J. only appeal to African American audiences.

23. According to the passage, bebop emerged as:

A. a more commercial and dance-oriented style of jazz.

B. an attempt to make jazz more accessible to mainstream audiences.

C. a simplified version of swing music for radio play.

D. a deliberate reaction against swing's commercialization.

24. The passage indicates that during the swing era:

F. only African American bandleaders achieved commercial success.

G. white bandleaders often achieved greater commercial success than Black musicians.

H. jazz completely abandoned its roots in African American communities.

J. bebop replaced swing as America's most popular music.

25. The passage describes free jazz as music that:

A. abandoned traditional structures like preset chord progressions and regular meters.

B. returned to the earliest forms of New Orleans collective improvisation.

C. achieved the greatest commercial success in jazz history.

D. required less technical skill than earlier jazz styles.

26. According to the passage, "Kind of Blue" by Miles Davis:

F. was rejected by audiences for being too experimental.

G. marked the end of jazz's creative development.

H. introduced bebop to mainstream audiences.

J. remains the best-selling jazz recording ever.

27. The passage suggests that jazz's current challenges include:

A. complete loss of all audience interest in the music.

B. inability to find any musicians interested in playing jazz.

C. aging audiences and questions about balancing tradition with relevance.

D. government censorship preventing new jazz recordings.

PASSAGE IV — NATURAL SCIENCE

This passage is adapted from an article about CRISPR gene-editing technology.

In 2012, scientists Jennifer Doudna and Emmanuelle Charpentier published research describing a molecular tool that would revolutionize genetics: CRISPR-Cas9, a system that allows precise editing of DNA with unprecedented ease and accuracy. Adapted from a bacterial immune system, CRISPR has transformed how researchers study genes, opened possibilities for treating genetic diseases, and sparked intense ethical debates about the limits of human intervention in heredity. Understanding both the technology's mechanisms and its implications requires examining how it works, what it enables, and what questions it raises.

CRISPR stands for "Clustered Regularly Interspaced Short Palindromic Repeats," describing DNA sequences found in bacteria. In nature, these sequences function as a primitive immune system. When viruses attack bacteria, the bacteria capture fragments of viral DNA and store them in CRISPR arrays—essentially a genetic memory of past infections. If the same virus attacks again, the bacteria produce RNA molecules matching the stored viral DNA. These RNA molecules guide Cas9, a protein that functions as molecular scissors, to the matching viral DNA sequence, where Cas9 cuts and disables it.

Researchers realized this system could be repurposed. By designing custom RNA guide sequences, scientists could direct Cas9 to cut any DNA sequence they chose. The implications were staggering. Previously, genetic modification required complex, time-consuming, expensive techniques. CRISPR

made it relatively simple, fast, and cheap—accessible to laboratories worldwide rather than only elite institutions. Within years, CRISPR became standard practice in research laboratories, used to study gene function, create disease models, and develop potential therapies.

The mechanism is elegantly simple. Scientists design a guide RNA matching the target DNA sequence they want to modify. This guide RNA forms a complex with the Cas9 protein. The complex scans DNA until it finds the matching sequence, then Cas9 cuts both strands of the DNA double helix at that precise location. The cell's natural repair mechanisms fix the break, but scientists can influence how this repair occurs. If no template is provided, the repair process often introduces errors that disable the gene—useful for studying what happens when specific genes don't function. If scientists provide a template with desired changes, the cell may incorporate those changes during repair—allowing gene correction or modification.

Medical applications have generated tremendous excitement. Sickle cell disease results from a single DNA base pair mutation in the hemoglobin gene. CRISPR could potentially correct this mutation in patients' blood stem cells, curing a disease that causes lifelong suffering. Similar approaches might address other genetic disorders: cystic fibrosis, Huntington's disease, muscular dystrophy. Clinical trials are underway for various conditions, with some promising early results. In 2020, CRISPR therapy received regulatory approval for treating two rare blood disorders, marking a milestone in genetic medicine.

Beyond treating disease in living patients, CRISPR enables editing embryos—changing genes that would be inherited by future generations. This germline editing presents profound ethical questions. Should humans permanently alter hereditary characteristics? Who decides which genes to edit? The line between treating disease and enhancing traits is unclear. Editing genes causing serious illness seems justifiable to many, but what about editing for intelligence, athletic ability, or physical appearance? Once germline editing becomes technologically routine, what prevents it from being used for non-medical purposes?

These concerns aren't hypothetical. In 2018, Chinese scientist He Jiankui announced he had edited embryos to make them resistant to HIV, allowing the birth of twin girls with modified genomes. The scientific community responded with almost universal condemnation. The editing was medically unnecessary—the children weren't at significant HIV risk—and potentially dangerous, with unknown long-term consequences. He had violated ethical guidelines, proceeding without appropriate oversight or consent. He was subsequently imprisoned, but the precedent was established: the technology exists and someone willing to use it will.

The accuracy concerns extend beyond ethics. While CRISPR is precise by previous standards, it's not perfect. "Off-target effects"—unintended cuts at DNA sequences similar to the target—can cause unexpected mutations with unpredictable consequences. For treating disease in living patients, off-target

effects are risks to weigh against potential benefits. For germline editing, such errors would be inherited, potentially causing problems generations later.

Agricultural applications raise different issues. CRISPR can create crops resistant to diseases, pests, or environmental stresses—potentially crucial as climate change threatens food security. These modifications are more targeted than traditional genetic engineering, changing existing genes rather than inserting foreign DNA. Some argue this makes CRISPR crops fundamentally different from earlier GMOs, warranting different regulations. Others contend that genetic modification, however achieved, requires careful oversight to prevent ecological disruption or corporate monopolization of food supplies.

Environmental applications present another frontier. Scientists have proposed using "gene drives"—CRISPR modifications that spread rapidly through populations—to eliminate disease-carrying mosquitoes or control invasive species. Gene drives could theoretically eradicate malaria, a disease killing hundreds of thousands annually. But releasing organisms with gene drives into ecosystems creates irreversible changes whose consequences cannot be fully predicted. What happens if modified organisms spread beyond target areas? What if genetic modifications have unintended ecological effects? Once released, gene drives cannot be recalled.

Regulatory frameworks struggle to keep pace with technological advancement. Different countries have adopted divergent approaches, creating "regulatory arbitrage" where researchers conduct experiments in permissive jurisdictions regardless of their home country's rules. International cooperation is essential but difficult to achieve given different cultural values, risk tolerances, and national interests.

The scientific community has attempted self-regulation, with prominent researchers calling for moratoria on certain applications until ethical frameworks are established. But voluntary restraint has limits when competitive pressures—whether academic, commercial, or national—incentivize proceeding. Moreover, disagreement exists within the scientific community about what constitutes acceptable use.

CRISPR's trajectory illustrates a recurring pattern in technological development: capabilities advance faster than society's ability to establish appropriate governance. The technology is neither inherently good nor bad; its value depends on how it's used. As CRISPR becomes more powerful and accessible, ensuring it serves human welfare rather than causing harm requires thoughtful regulation, international cooperation, public engagement, and ongoing ethical deliberation. The decisions made now about CRISPR will shape not just current medical practice but the genetic legacy we pass to future generations—a responsibility demanding wisdom commensurate with the technology's power.

28. The main purpose of the passage is to:

F. explain how CRISPR works and examine its applications and ethical implications.

G. argue that CRISPR research should be immediately banned.

H. describe the history of genetic engineering before CRISPR.

J. criticize scientists for irresponsible use of genetic technology.

29. According to the passage, CRISPR sequences in bacteria naturally function as:

A. a way to produce proteins for cellular metabolism.

B. a primitive immune system storing genetic memory of viral infections.

C. a method for bacteria to reproduce asexually.

D. structures that help bacteria move and find nutrients.

30. The passage indicates that CRISPR made genetic modification:

F. impossible for most research laboratories to perform.

G. more complex and time-consuming than previous methods.

H. relatively simple, fast, and cheap compared to earlier techniques.

J. available only to elite institutions with specialized equipment.

31. According to the passage, when Cas9 cuts DNA and no template is provided, the repair process:

A. always restores the DNA to its original sequence.

B. requires specialized equipment to complete successfully.

C. often introduces errors that disable the gene.

D. cannot occur without scientific intervention.

32. The passage mentions sickle cell disease as an example of a condition that:

F. cannot be treated with any current medical technology.

G. results from a single mutation that CRISPR could potentially correct.

H. affects only a small number of people worldwide.

J. has already been completely cured using CRISPR therapy.

33. According to the passage, germline editing refers to:

A. editing genes in embryos so changes are inherited by future generations.

B. treating diseases in adult patients without affecting offspring.

C. any medical procedure that uses CRISPR technology.

D. agricultural modifications to crop plants.

34. The passage indicates that scientist He Jiankui was condemned and imprisoned for:

F. discovering the CRISPR-Cas9 system.

G. conducting research on genetic diseases.

H. writing academic papers about germline editing.

J. editing embryos without appropriate oversight or for necessary medical reasons.

35. According to the passage, "off-target effects" refer to:

A. beneficial unexpected mutations that improve gene function.

B. the inability of CRISPR to cut any DNA sequences.

C. precise cuts exactly where scientists intend them.

D. unintended cuts at DNA sequences similar to the target.

36. The passage suggests that "gene drives" could potentially:

F. eliminate disease-carrying mosquitoes but with unpredictable ecological consequences.

G. be easily reversed if they cause environmental problems.

H. only work in laboratory settings, not in wild populations.

J. solve all agricultural problems related to climate change.

Science (Optional)

TIME: 40 minutes for 40 questions

DIRECTIONS: Following are seven passages and then questions that refer to each passage. Choose the best answer and shade in the corresponding oval on your answer sheet.

PASSAGE I

A biologist studied the effect of light intensity and water availability on the growth of tomato plants. Three experiments were conducted in a greenhouse over a 6-week period.

Experiment 1

Twenty tomato seedlings of the same age and size were divided into 4 groups of 5 plants each. Each group was exposed to a different light intensity (measured in lumens per square meter, lm/m²). All plants received the same amount of water (500 mL per week) and were kept at 25°C. After 6 weeks, the average height and average number of leaves per plant were recorded.

Table 1

Light intensity (lm/m²)	Average height (cm)	Average number of leaves
2,000	18.2	12
4,000	24.5	18
6,000	31.8	24
8,000	32.1	25

Experiment 2

Twenty new tomato seedlings were divided into 4 groups and exposed to the same light intensity (6,000 lm/m²) but received different amounts of water per week. Temperature was maintained at 25°C.

Table 2

Water per week (mL)	Average height (cm)	Average number of leaves
100	15.3	10
300	26.7	19
500	31.8	24
700	33.2	26

Experiment 3

Twenty new seedlings were divided into 4 groups. Each group was exposed to 6,000 lm/m² light intensity and received 500 mL of water per week, but was kept at a different temperature.

Table 3

Temperature (°C)	Average height (cm)	Average number of leaves
15	22.4	16
20	28.9	21
25	31.8	24
30	29.5	22

1. According to Experiment 1, as light intensity increased from 2,000 to 8,000 lm/m², average plant height:

A. decreased only.

B. remained constant.

C. increased.

D. increased then decreased.

2. Based on the results of Experiment 2, which amount of water resulted in the tallest average plant height?

F. 100 mL

G. 700 mL

H. 300 mL

J. 500 mL

3. In Experiment 3, which temperature resulted in plants with the most leaves?

A. 15°C

B. 25°C

C. 20°C

D. 30°C

4. Which of the following variables was held constant in all three experiments?

F. Temperature

G. Water amount

H. Age and initial size of seedlings

J. Light intensity

5. Based on the results of Experiment 3, the optimal temperature for tomato plant growth appears to be:

A. 15°C

B. 20°C

C. 30°C

D. 25°C

6. A student hypothesized that increasing water availability would always increase plant growth. Do the results support this hypothesis?

F. Yes, because height increased with every increase in water amount.

G. No, because some plants receiving more water grew less than others.

H. Yes, because all plants that received water survived.

J. No, because water had no effect on plant growth.

7. Based on the results of Experiments 1 and 2, if a plant received 6,000 lm/m² light and 300 mL water per week, its average height would most likely be closest to:

A. 26.7 cm

B. 31.8 cm

C. 15.3 cm

D. 33.2 cm

PASSAGE II

Students investigated the relationship between exercise intensity and heart rate recovery time. Heart rate recovery is the decrease in heart rate that occurs after exercise stops. Ten healthy adult volunteers participated in the study.

Experiment 1

Volunteers performed light exercise (walking at 3 mph) for 10 minutes. Immediately after stopping, their heart rates were measured every minute for 5 minutes. Table 1 shows the average heart rate at each time point.

Table 1

Time after exercise (min)	Average heart rate (beats per minute)
0	102
1	92
2	84
3	78
4	74
5	72

Experiment 2

The same volunteers performed moderate exercise (jogging at 6 mph) for 10 minutes. Heart rates were measured using the same procedure.

Table 2

Time after exercise (min)	Average heart rate (beats per minute)
0	145
1	128
2	114
3	102
4	92
5	84

Experiment 3

The same volunteers performed intense exercise (running at 9 mph) for 10 minutes. Heart rates were measured using the same procedure.

Table 3

Time after exercise (min)	Average heart rate (beats per minute)
0	178
1	162
2	148
3	135
4	124
5	115

Resting heart rate for the volunteers averaged 70 beats per minute.

8. According to Table 1, what was the average heart rate 3 minutes after light exercise ended?

F. 102 bpm

G. 92 bpm

H. 84 bpm

J. 78 bpm

9. Based on Experiment 2, how much did the average heart rate decrease during the first minute after moderate exercise ended?

A. 10 bpm

B. 14 bpm

C. 17 bpm

D. 28 bpm

10. Comparing all three experiments, immediately after exercise (time 0), the highest average heart rate occurred after:

F. light exercise.

G. intense exercise.

H. moderate exercise.

J. all three had the same heart rate.

11. Based on the data from all three experiments, as exercise intensity increased, the heart rate immediately after exercise:

A. decreased.

B. increased.

C. remained constant.

D. first increased then decreased.

12. Five minutes after intense exercise, the average heart rate was still above resting heart rate by approximately:

F. 15 bpm

G. 30 bpm

H. 45 bpm

J. 60 bpm

13. Which of the following conclusions is best supported by the experimental results?

A. Light exercise produces no increase in heart rate.

B. Heart rate returns to resting level within 1 minute after all exercise types.

C. Exercise intensity has no effect on heart rate recovery time.

D. Higher intensity exercise results in a higher heart rate immediately after exercise stops.

14. Based on the pattern in the data, if the volunteers had performed very light exercise (walking at 2 mph), the average heart rate immediately after exercise would most likely have been:

F. lower than 102 bpm.

G. higher than 178 bpm.

H. exactly 145 bpm.

J. exactly 102 bpm.

PASSAGE III

Chemists studied the solubility of different salts in water at various temperatures. Solubility is the maximum amount of solute that can dissolve in a given amount of solvent. Three salts were tested: sodium chloride (NaCl), potassium nitrate (KNO_3), and cerium sulfate ($Ce_2(SO_4)_3$).

Experiment 1

Scientists measured the solubility of NaCl in 100 g of water at different temperatures.

Table 1

Temperature (°C)	Solubility of NaCl (g per 100 g water)
0	35.7
20	36.0
40	36.6
60	37.3
80	38.4
100	39.8

Experiment 2

Scientists measured the solubility of KNO_3 in 100 g of water at different temperatures.

Table 2

Temperature (°C)	Solubility of KNO_3 (g per 100 g water)
0	13.3
20	31.6
40	63.9
60	110.0
80	169.0
100	246.0

Experiment 3

Scientists measured the solubility of $Ce_2(SO_4)_3$ in 100 g of water at different temperatures.

Table 3

Temperature (°C)	Solubility of $Ce_2(SO_4)_3$ (g per 100 g water)
0	21.4
20	10.5
40	5.2
60	2.8
80	1.6
100	0.9

15. According to Experiment 1, the solubility of NaCl at 80°C is closest to:

A. 38.4 g per 100 g water

B. 37.3 g per 100 g water

C. 35.7 g per 100 g water

D. 39.8 g per 100 g water

16. Based on Experiment 2, as temperature increased from 0°C to 100°C, the solubility of KNO_3:

F. decreased only.

G. remained constant.

H. increased then decreased.

J. increased only.

17. Which salt had the highest solubility at 0°C?

A. All three had equal solubility

B. KNO_3

C. NaCl

D. $Ce_2(SO_4)_3$

18. According to Experiment 3, the solubility of $Ce_2(SO_4)_3$ at 60°C was:

F. 21.4 g per 100 g water

G. 2.8 g per 100 g water

H. 5.2 g per 100 g water

J. 10.5 g per 100 g water

19. Which of the following statements best describes the effect of temperature on $Ce_2(SO_4)_3$ solubility?

A. Temperature has no effect on solubility.

B. As temperature increases, solubility decreases.

C. As temperature increases, solubility increases.

D. Solubility first increases then decreases.

20. At 100°C, which salt had the lowest solubility?

F. NaCl

G. KNO_3

H. $Ce_2(SO_4)_3$

J. All three had equal solubility

21. Based on the experiments, which salt showed the most dramatic change in solubility across the temperature range studied?

A. NaCl

B. All showed equal changes

C. $Ce_2(SO_4)_3$

D. KNO_3

PASSAGE IV

Geologists studied rock layers at three different locations (Site A, Site B, and Site C) to understand the geological history of a region. At each site, they identified distinct rock layers and measured the thickness of each layer. They also determined the type of rock and the age of fossils found in each layer.

Table 1: Site A

Layer	Rock type	Thickness (m)	Fossil age (million years)
1	Sandstone	15	50
2	Limestone	8	75
3	Shale	12	100
4	Sandstone	20	125

Note: Layer 1 is the top layer; Layer 4 is the bottom layer.

Table 2: Site B

Layer	Rock type	Thickness (m)	Fossil age (million years)
1	Shale	10	50
2	Limestone	18	75
3	Sandstone	14	100

Note: Layer 1 is the top layer; Layer 3 is the bottom layer.

Table 3: Site C

Layer	Rock type	Thickness (m)	Fossil age (million years)
1	Limestone	6	50
2	Shale	16	75
3	Limestone	9	100
4	Sandstone	22	125
5	Shale	11	150

Note: Layer 1 is the top layer; Layer 5 is the bottom layer.

22. According to Table 1, which layer at Site A is the oldest?

F. Layer 4

G. Layer 3

H. Layer 2

J. Layer 1

23. At Site B, the total thickness of all rock layers combined is:

A. 42 m

B. 32 m

C. 55 m

D. 38 m

24. Which site has the greatest number of distinct rock layers?

F. Site A

G. Site B

H. All sites have equal numbers

J. Site C

25. Based on the fossil ages, which layer at Site A was deposited at the same time as Layer 2 at Site B?

A. Layer 1

B. Layer 4

C. Layer 2

D. Layer 3

26. At Site C, which rock type appears in more than one layer?

F. Sandstone only

G. Both limestone and shale

H. Sandstone only

J. Shale only

27. According to the data, the oldest fossils found at any of the three sites are:

A. 125 million years old

B. 150 million years old

C. 100 million years old

D. 50 million years old

28. Which rock type appears at all three sites?

F. Shale only

G. Sandstone only

H. Limestone

J. All three rock types appear at all sites

PASSAGE V

Students conducted experiments to determine how the angle of a ramp affects the distance a ball travels after rolling off the ramp. A ball was released from the top of a 2-meter-long ramp and allowed to roll down. After leaving the ramp, the ball traveled through the air before hitting the ground. The horizontal distance from the end of the ramp to where the ball landed was measured.

Experiment 1

The ramp was set at various angles above the horizontal. A ball with a mass of 0.5 kg was released from rest at the top of the ramp for each trial. The height of the ramp's lower end was kept constant at 0.5 m above the ground.

Table 1

Ramp angle (degrees)	Horizontal distance traveled (m)
15	1.2
30	2.1
45	2.8
60	2.4
75	1.7

Experiment 2

The ramp angle was kept constant at 45°, but balls of different masses were used. All other conditions remained the same.

Table 2

Ball mass (kg)	Horizontal distance traveled (m)
0.2	2.8
0.5	2.8
0.8	2.8
1.1	2.8

Experiment 3

The ramp angle was kept at 45° and a 0.5 kg ball was used, but the height of the ramp's lower end above the ground was varied.

Table 3

Height of ramp end (m)	Horizontal distance traveled (m)
0.5	2.8
1.0	3.9
1.5	4.8
2.0	5.5

29. According to Experiment 1, which ramp angle resulted in the greatest horizontal distance traveled?

A. 15°

B. 30°

C. 60°

D. 45°

30. Based on the results of Experiment 2, how did ball mass affect horizontal distance traveled?

F. Greater mass resulted in greater distance.

G. Mass had no effect on distance.

H. Greater mass resulted in shorter distance.

J. Mass effect varied unpredictably.

31. In Experiment 3, as the height of the ramp end increased, horizontal distance:

A. increased only.

B. decreased only.

C. remained constant.

D. increased then decreased.

32. Which variable was held constant throughout Experiment 1?

F. Height of ramp's lower end

G. Ramp angle

H. Ball mass and ramp angle

J. Horizontal distance traveled

33. Based on the results of Experiment 1, if the ramp angle were set at 20°, the horizontal distance would most likely be:

A. greater than 2.8 m

B. less than 1.2 m

C. between 1.2 and 2.1 m

D. greater than 3.0 m

34. A student hypothesized that heavier balls would travel farther horizontally. Do the results of Experiment 2 support this hypothesis?

F. Yes, because all balls traveled the same distance.

G. Yes, because heavier balls traveled farther.

H. No, because ball mass did not affect horizontal distance.

J. No, because lighter balls traveled farther.

PASSAGE VI

Ecologists studied the effect of pH (measure of acidity or alkalinity) on the survival and growth of three species of aquatic plants: Elodea, Cabomba, and Vallisneria. All three species were grown in aquariums with controlled pH levels for 4 weeks.

Experiment 1

Ten specimens of Elodea were placed in separate aquariums, each maintained at a different pH level. After 4 weeks, the number of surviving plants and average length increase were recorded.

Table 1

pH	Number surviving (out of 10)	Average length increase (cm)
4.0	2	1.2
5.0	5	3.8
6.0	9	8.5
7.0	10	12.3
8.0	10	11.8
9.0	7	6.2
10.0	3	2.1

Experiment 2

The same procedure was followed using Cabomba.

Table 2

pH	Number surviving (out of 10)	Average length increase (cm)
4.0	0	0
5.0	3	2.1
6.0	7	6.4
7.0	9	9.8
8.0	8	8.2
9.0	4	3.5
10.0	1	0.8

Experiment 3

The same procedure was followed using Vallisneria.

Table 3

pH	Number surviving (out of 10)	Average length increase (cm)
4.0	1	0.5
5.0	4	2.9
6.0	8	7.2
7.0	10	11.5
8.0	10	13.2
9.0	9	10.1
10.0	6	5.8

35. According to Experiment 1, at which pH did Elodea show the greatest average length increase?

A. 6.0

B. 7.0

C. 8.0

D. 9.0

36. Based on Experiment 2, how many Cabomba plants survived at pH 4.0?

F. 1

G. 2

H. 3

J. 0

37. Which species showed the best survival rate at pH 9.0?

A. Vallisneria

B. Elodea

C. Cabomba

D. All three had equal survival

38. Comparing all three experiments, which pH level resulted in the highest survival rate for all three species combined?

F. 6.0

G. 7.0

H. 8.0

J. 9.0

39. Based on the data from all three experiments, which species appears most tolerant of highly alkaline conditions (pH 9.0-10.0)?

A. Elodea

B. Cabomba

C. All three are equally tolerant

D. Vallisneria

40. A researcher wants to create an aquarium containing all three plant species with optimal growth conditions. Based on the experimental results, which pH would be most suitable?

F. 7.0

G. 6.0

H. 9.0

J. 10.0

Writing (Optional)

TIME: 40 minutes

DIRECTIONS: Respond to the following prompt with a well-organized essay that follows the rules of Standard English. Write your essay on a separate sheet of lined paper.

Age Restrictions and Parental Controls for Social Media

Recent proposals to restrict social media access for young people have sparked intense debate about balancing safety with autonomy. Some lawmakers advocate for strict age verification requiring users to be 16 or older to create accounts on platforms like Instagram, TikTok, and Snapchat. Others propose mandatory parental monitoring tools that give parents access to their children's social media activity. Supporters argue these measures protect developing brains from addiction, cyberbullying, and harmful content. Critics contend they infringe on young people's privacy, limit their ability to find community and information, and may drive them toward less safe, unmonitored platforms. As concerns about teen mental health intersect with questions about digital rights and parental authority, society must determine what role regulation should play in young people's online lives.

Read and carefully consider these perspectives. Each suggests a particular way of thinking about age restrictions and parental controls for social media.

Perspective One

Strict age restrictions and parental monitoring are necessary to protect vulnerable young people. Adolescent brains are still developing, particularly in areas governing impulse control and risk assessment. Social media companies deliberately engineer their platforms to be addictive, exploiting psychological vulnerabilities to maximize engagement. The documented harms—increased anxiety and depression, body image issues, sleep disruption, exposure to predators and harmful content—justify intervention. Just as we restrict alcohol and driving based on age and developmental readiness, we should restrict access to technologies proven to harm young people's mental health. Parents have both the right and responsibility to monitor their children's activities, including online behavior. The argument that restrictions infringe on young people's autonomy ignores that children don't have unlimited rights—society regularly limits minors' choices for their protection. If anything, current approaches are too permissive, allowing tech companies to profit from young users while externalizing the mental health costs onto families and society.

Perspective Two

Age restrictions and mandatory monitoring are counterproductive, ineffective, and violate young people's rights. Teenagers will find ways around age verification systems, potentially migrating to less regulated, more dangerous platforms or lying about their age—teaching them that rules are obstacles to circumvent rather than guidelines to respect. Blanket bans ignore that social media provides crucial

benefits: connection for isolated teens, community for LGBTQ+ youth who may not be accepted at home or school, access to mental health resources and information, platforms for activism and creative expression. Mandatory parental monitoring destroys the trust essential to healthy parent-child relationships and may actively endanger young people—LGBTQ+ teens with unsupportive parents, those experiencing abuse, or anyone exploring aspects of identity they're not ready to share. The focus on restriction deflects from addressing the real problems: inadequate mental health resources, educational systems that don't teach media literacy, and platform design that prioritizes engagement over well-being. Rather than banning access, we should improve education, strengthen platform accountability, and preserve spaces where young people can develop autonomy and identity.

Perspective Three

The solution requires nuanced, age-appropriate approaches rather than blanket restrictions or unrestricted access. Different ages require different levels of guidance—a 13-year-old needs more support than a 17-year-old. Rather than complete bans or full parental access to private messages, implement graduated systems: younger teens might have platforms with stronger default safety settings, content filtering, and time limits, while older teens gain more autonomy as they demonstrate responsible use. Parents should have access to general usage data (time spent, new contacts added) without reading every private conversation—maintaining some privacy while preventing completely unmonitored access. Crucially, these measures must be combined with education: teaching critical media literacy, helping young people recognize manipulation and misinformation, discussing healthy technology use in families and schools. Platform companies must also be regulated—required to design for user well-being rather than maximum engagement, to provide genuine age-appropriate experiences, and to share data about how their products affect young users. The goal isn't to choose between absolute protection and absolute freedom, but to create scaffolding that supports healthy development while preparing young people for the digital world they'll navigate as adults.

ESSAY TASK

Write a unified, coherent essay about age restrictions and parental controls for social media. In your essay, be sure to:

- Analyze and evaluate the perspectives given
- State and develop your own perspective on the issue
- Explain the relationship between your perspective and those given

Your perspective may be in full agreement with any of the given perspectives, in partial agreement, or wholly different. Whatever the case, support your ideas with logical reasoning and detailed, persuasive examples.

ANSWERS AND EXPLANATIONS

English

1. B. The past perfect tense "had kept" is correct. This construction indicates an action (keeping the box in her closet) that began in the past and continued up until another past point (when she handed it over last year). The past perfect maintains proper sequence of tenses in the narrative.

2. H. The original "These weren't just old papers they were fragments of a journey" is a run-on sentence containing two independent clauses with no punctuation between them. A semicolon properly joins closely related independent clauses: "These weren't just old papers; they were fragments of a journey." A comma alone (choice G) would create a comma splice, which is incorrect.

3. C. The original creates a confusing run-on sentence. The clearest solution is to create two separate sentences: "My great-grandparents, Josef and Anna, left everything they knew when they boarded a ship in Hamburg, Germany. Their destination was Ellis Island." This provides clarity and proper sentence structure.

4. G. The sentence contains two independent clauses: "The crossing took sixteen days" and "the conditions in steerage were cramped and unsanitary." When two independent clauses are joined by a coordinating conjunction (and, but, or, nor, for, so, yet), a comma must precede the conjunction. Therefore: "The crossing took sixteen days, and the conditions in steerage were cramped and unsanitary."

5. C. The paragraph needs a transition from discussing the voyage to discussing the arrival at Ellis Island. Choice C, "After the long voyage, the family finally arrived at Ellis Island in New York harbor," effectively bridges these topics by referencing what came before (the voyage) and introducing what follows (the Ellis Island experience). Choices A, B, and D provide general facts but don't create a smooth narrative transition.

6. F. The series of three actions should be separated by commas: "checking eyes, asking questions, and making rapid decisions." This follows standard convention for series punctuation with commas separating items.

7. D. The original "One of the letters in my grandmother's box described this experience the writer expressed relief" is a run-on sentence. The clearest and most effective solution is to separate these into two distinct sentences: "One of the letters in my grandmother's box described this experience. The writer expressed relief at passing the medical inspection." While a semicolon (choice C) would be grammatically acceptable, two sentences provide better clarity and emphasis.

8. F. Two independent clauses joined by the coordinating conjunction "but" require a comma before "but": "The job was dangerous and exhausting, but it provided a steady income." The comma signals the contrast between the negative aspects and the positive outcome.

9. A. The clause "that they shared with another immigrant family from their village" is a restrictive relative clause—it's essential information specifying which apartment is being discussed. Restrictive clauses should NOT be set off with commas. The sentence is correct as written.

10. G. The word "children" is already plural (the plural of "child"), so to make it possessive, add an apostrophe and 's': "children's." The form "childrens'" would only be correct if "childrens" were a word, which it is not.

11. A. The sentence "Their children graduated from high school, something that hadn't been possible in their village" should be KEPT because it provides a specific, concrete example of the educational opportunities that immigration created for the family. This detail supports the paragraph's theme about hope and progress, illustrating the tangible benefits that made the family's struggles worthwhile.

12. J. The original "Immigration wasn't just a historical event that happened long ago it was a series of courageous decisions" is a run-on sentence. The most effective solution is to separate these into two sentences: "Immigration wasn't just a historical event that happened long ago. It was a series of courageous decisions made by real people facing impossible choices." This creates proper sentence structure and emphasizes the second clause.

13. A. The phrase "that those struggles were part of a larger story worth preserving" provides an effective transition to the next sentence about the narrator creating an archive. It explains why the grandmother changed her mind about hiding the documents and sets up the preservation work described next.

14. H. The paragraph discusses the grandmother's change in perspective (from hiding documents to wanting to share them). The sentence "Her decision to share these documents inspired me to ensure they wouldn't be lost" creates a clear causal connection between the grandmother's actions and the narrator's response, effectively bridging the two ideas.

15. C. The essay would NOT successfully accomplish the goal of examining the process of immigration through Ellis Island. While Ellis Island is mentioned, the passage focuses primarily on one family's personal immigration experience—their journey, settlement in Cleveland, work struggles, and family letters. The essay provides only brief mentions of Ellis Island procedures (medical inspections, processing) within a much larger personal narrative. To examine the immigration process, the essay would need to systematically describe how Ellis Island operated, what procedures immigrants underwent, and how the system functioned—none of which is the focus here.

16. G. Two independent clauses joined by a coordinating conjunction require a comma before the conjunction: "Most people understand that sleep is important, but few realize just how essential it is." The comma before "but" is necessary to properly join these clauses.

17. B. The original "maintenance tasks these tasks cannot be completed during waking hours" is a run-on sentence. A semicolon properly joins these closely related independent clauses: "maintenance tasks; these tasks cannot be completed during waking hours." The semicolon shows the close relationship between the two statements.

18. G. The following paragraphs discuss cognitive benefits (memory consolidation) and physical benefits (growth hormone, tissue repair, immune function). The sentence "The benefits of sleep fall into two main categories: cognitive and physical" effectively introduces this organizational structure, preparing readers for what follows.

19. C. The sentence establishes a comparison between students who study before sleeping and students who study at another time. To maintain parallel structure and logical comparison, it should compare "study material before sleeping" with "study the same material immediately before taking a test." This creates a clear contrast between the two study timing strategies.

20. G. The relative clause "which helps rebuild muscle tissue, strengthen bones, and support the immune system" provides additional information about growth hormone. Non-restrictive relative clauses introduced by "which" should be preceded by a comma: "Growth hormone is released, which helps rebuild muscle tissue..."

21. A. The phrase "and perform better in competition than those who don't" completes the comparison naturally without requiring additional punctuation. The sentence flows clearly: "Athletes who get adequate sleep recover faster from training and perform better in competition than those who don't."

22. G. The phrase "the recommended minimum for health" is an appositive that renames or explains "seven hours of sleep per night." Appositives should be set off with commas: "regularly get less than seven hours of sleep per night, the recommended minimum for health."

23. A. The sentence contains a compound verb structure: "emit blue light, which suppresses melatonin production and makes falling asleep more difficult." The two verbs "suppresses" and "makes" are coordinated with "and" without needing a comma before "and" because they're part of the same relative clause describing the light's effects.

24. J. The original contains a run-on sentence. The clearest solution is to create two separate sentences: "Chronic sleep deprivation increases the risk of obesity, diabetes, cardiovascular disease, and depression. It impairs judgment and reaction time, contributing to accidents." This creates proper sentence structure and adds emphasis to the serious consequences.

25. B. The phrase "even on weekends" is a parenthetical element providing additional information about maintaining a sleep schedule. Parenthetical elements should be set off with commas on both sides: "maintaining a regular sleep schedule, even on weekends, keeping the bedroom cool and dark."

26. J. The sentence about siestas in other cultures should NOT be added. While interesting, this information doesn't directly relate to the paragraph's specific focus on changing workplace attitudes in America. The paragraph discusses how American companies are beginning to value sleep through nap rooms and flexible schedules—adding information about traditional siestas in other cultures would distract from this focused point.

27. B. The possessive form "its" (without an apostrophe) is correct when showing possession: "current research emphasizes its critical importance." The word "it's" is a contraction meaning "it is" or "it has," which would be incorrect here. Remember: it's = it is/it has; its = possessive.

28. F. The clause "that allow employees to sleep according to their natural rhythms" is a restrictive relative clause—it's essential information specifying which flexible schedules are being discussed. Restrictive clauses should NOT be set off with commas. The sentence is correct as written.

29. A. To show possession with the word "sleep," add an apostrophe and 's': "sleep's biological necessity." This correctly indicates that the biological necessity belongs to or is a characteristic of sleep.

30. J. Two independent clauses expressing a strong contrast can be effectively joined with an em dash for emphasis: "Sleep isn't a luxury or an indulgence—it's a fundamental requirement for health." The em dash creates a dramatic pause and emphasizes the correction of the misconception. A semicolon (choice G) would also be grammatically correct but provides less emphasis.

31. B. To make "people" possessive, add an apostrophe and 's': "most people's garages." The form "peoples'" would only be used if referring to multiple distinct peoples (like "the world's peoples"), which is not the case here.

32. F. The phrase "people choosing to downsize their living spaces dramatically" is clear, specific, and directly relevant to the topic. It precisely describes what the tiny house movement involves. The other choices are either too vague (G, H) or change the focus (J).

33. A. The series is correctly punctuated with commas separating three parallel gerund phrases: "owning less, spending less, and having more freedom and financial flexibility." This follows standard series punctuation.

34. H. The essay needs a transition from general information about the tiny house movement to the narrator's personal experience building their own tiny house. "Once I decided to join the movement, I began planning my own tiny house" effectively creates this bridge by referencing the movement and introducing the personal journey.

35. B. A colon is the appropriate punctuation to introduce a list of specific examples: "Every inch had to serve multiple purposes: a table that folded into a wall, a bed that stored clothing underneath, stairs that doubled as drawers." The colon signals that examples will follow.

36. G. The contraction "I'd" (meaning "I would" or "I had") requires an apostrophe between the 'I' and the 'd': "skills I never imagined I'd have."

37. B. The phrase "particularly the roof and the electrical panel connection" provides specific examples of tasks requiring professional help. This parenthetical phrase should be set off with a comma: "Some tasks required professional help, particularly the roof and the electrical panel connection."

38. G. The sentence contains two independent clauses, with the second explaining what the benefits are. A colon is the most appropriate punctuation to introduce this explanation: "The benefits are clear: I save money on utilities, spend less time cleaning, and feel liberated..." The colon signals that the specifics of the "clear benefits" will follow.

39. D. The original "I don't miss most of the possessions I gave away they were taking up space" is a run-on sentence containing two independent clauses with no punctuation between them. These should be separated into two sentences: "I don't miss most of the possessions I gave away. They were taking up space without adding value to my life." This creates proper sentence structure.

40. F. The sentence providing specific dimensions (8 feet wide, 20 feet long) should be ADDED. These concrete measurements help readers visualize just how small the space is, providing important context for understanding the challenges discussed in the paragraph (difficulty hosting guests, storage limitations). The dimensions make the constraints more tangible.

41. A. The contraction "it's" is correct here because it means "it has": "The tiny house has given me something more valuable than square footage—it's [it has] given me intentionality." Don't confuse this with the possessive "its." In this sentence, "it's" = "it has."

42. G. A colon appropriately introduces a list of specific activities: "I spend less time maintaining my home and more time living my life: hiking, traveling, and pursuing hobbies I never had time for before." The colon signals that examples of "living my life" will follow.

43. B. Before defending tiny living in the final paragraph, acknowledging potential criticism provides balance and addresses reader concerns: "Some people criticize tiny living as impractical or just a trendy fad." This sets up the rebuttal that follows and shows the writer has considered opposing viewpoints.

44. G. Two independent clauses expressing contrasting ideas are effectively joined with a semicolon: "My 250-square-foot house has taught me that freedom doesn't come from having more space; it comes from needing less." The semicolon shows these are closely related but contrasting ideas.

45. C. The essay would NOT successfully accomplish the goal of providing detailed building instructions. While the essay mentions the construction process (framing, electrical, plumbing), it focuses primarily on the philosophy, experience, and lifestyle of tiny living rather than providing the step-by-step technical details needed to actually build a tiny house. The emphasis is on why and what it's like, not how to do it.

46. J. The original is a run-on sentence containing two independent clauses with no punctuation between them. These should be separated into two distinct sentences: "In an age of instant messaging and email, the handwritten letter has become almost obsolete. Few people under thirty have ever written or received a personal letter on paper."

47. B. The sentence contains two independent clauses that are closely related. A semicolon properly joins them: "Stored in a cedar chest in her attic were hundreds of letters spanning decades; these letters documented relationships, historical events, and the everyday details of life." The semicolon shows the close relationship between the existence of the letters and what they contained.

48. G. The paragraph discusses how letters create different communication than digital messages. The sentence "The physical process of writing by hand engages the brain differently than typing" provides the scientific/neurological explanation for this difference, supporting the paragraph's claim about letters requiring more thoughtful communication.

49. B. A colon is appropriate to introduce the explanation of what "effort" entails: "Letters require time and effort: you must sit down with paper and pen, compose your thoughts, address an envelope, and mail it." The colon signals that the specific components of "time and effort" will follow.

50. F. The sentence flows naturally without additional punctuation: "The writer must consider what they want to say and how to say it clearly and completely since there's no immediate back-and-forth to clarify misunderstandings." The subordinate clause beginning with "since" connects smoothly to the main clause, explaining why clarity is important.

Mathematics

1. C. Substitute x = 5 into the expression: $3(x - 4) + 2x = 3(5 - 4) + 2(5) = 3(1) + 10 = 3 + 10 = 13$

2. B. Solve for x: $2x + 7 = 19$ $2x = 19 - 7$ $2x = 12$ $x = 6$

3. A. Distribute 4 to both terms inside the parentheses: $4(2x + 3) = 4(2x) + 4(3) = 8x + 12$

4. D. Calculate 25% of $40: 25% of $40 = $0.25 \times \$40 = \$10$ (discount) Sale price = $40 - $10 = $30

5. B. Use the slope formula $m = (y_2 - y_1)/(x_2 - x_1)$: $m = (13 - 5)/(6 - 2) = 8/4 = 2$

6. C. Substitute x = 3 into the function: $f(3) = 2(3)^2 - 3(3) + 1 = 2(9) - 9 + 1 = 18 - 9 + 1 = 10$

7. A. Evaluate the expression inside the absolute value first: $|-8 + 3| = |-5| = 5$ (Absolute value makes any number positive)

8. D. Calculate the percentage: (18 girls / 30 students) × 100% = 0.6 × 100% = 60%

9. B. Solve for x: $5x - 3 = 2x + 9$ $5x - 2x = 9 + 3$ $3x = 12$ $x = 4$

10. C. Use the area formula for a rectangle: Area = length × width = 8 cm × 5 cm = 40 cm^2

11. D. Use FOIL (First, Outer, Inner, Last): $(x + 3)(x - 5) = x^2 - 5x + 3x - 15 = x^2 - 2x - 15$

12. A. Set up the equation: $(3/4)n = 24$ $n = 24 \times (4/3) = 24 \times 4/3 = 96/3 = 32$

13. C. Use the distance formula: $d = \sqrt{[(x_2 - x_1)^2 + (y_2 - y_1)^2]}$ $d = \sqrt{[(4 - 1)^2 + (6 - 2)^2]} = \sqrt{[3^2 + 4^2]} = \sqrt{[9 + 16]} = \sqrt{25} = 5$

14. B. Taking the square root of both sides: $x^2 = 49$ $x = \pm\sqrt{49} = \pm 7$ So x = 7 or x = -7

15. D. This is an arithmetic sequence with first term $a_1 = 2$ and common difference d = 3. The nth term formula is: $a_n = a_1 + (n - 1)d$ $a_{10} = 2 + (10 - 1)(3) = 2 + 9(3) = 2 + 27 = 29$

16. A. Calculate 35% of 80: $0.35 \times 80 = 28$

17. C. The sum of angles in a triangle is 180°: $45° + 60° + x° = 180°$ $105° + x° = 180°$ $x° = 75°$

18. B. Factor using difference of squares: $x^2 - 9 = x^2 - 3^2 = (x + 3)(x - 3)$ Both $(x + 3)$ and $(x - 3)$ are factors.

19. D. Use the circumference formula $C = 2\pi r$: $C = 2\pi(7) = 14\pi \approx 14 \times 3.14 = 43.96$ inches (approximately 44 inches)

20. A. Substitute $x = 4$ into the equation: $y = 3(4) - 2 = 12 - 2 = 10$

21. B. Evaluate each square root separately: $\sqrt{64} + \sqrt{36} = 8 + 6 = 14$

22. C. Substitute $x = 3$ and solve for y: $2(3) + 3y = 12$ $6 + 3y = 12$ $3y = 6$ $y = 2$

23. D. First, arrange the numbers in order: 2, 3, 4, 5, 7, 8, 9 The median is the middle value (4th value out of 7): **5**

24. A. Use the formula: speed = distance/time Speed = 240 miles / 4 hours = 60 mph

25. B. Use exponent rules: when multiplying powers with the same base, add the exponents: $2^3 \times 2^2 = 2^{(3+2)} = 2^5 = 32$

26. C. The triangle has sides 5, 12, and 13. Looking at the position of angle θ in the diagram, the opposite side is 12 and the hypotenuse is 13. $\sin \theta$ = opposite/hypotenuse = 12/13

27. A The total area of the 6×6 square is 36 square inches. The diagonal divides the square into two equal triangles. Looking at the grid, each shaded triangle has its vertices at grid intersections. Counting grid squares or using coordinates: each small triangle formed has an area that can be calculated. The two shaded triangles together have a combined area of 16 square inches. Fractional part = 16/36 = 4/9

28. D. Distribute 3x to both terms: $3x(2x - 4) = 3x(2x) + 3x(-4) = 6x^2 - 12x$

29. B. If $\log_2(x) = 5$, then by definition: $2^5 = x$ $x = 32$

30. J Calculate the volume: $V = \pi r^2 h = \pi(5)^2(3) = \pi(25)(3) = 75\pi$ cubic meters $V \approx 75 \times 3.14159 \approx 235.62$ cubic meters

Calculate the weight: Weight = $235.62 \times 2{,}205 \approx 519{,}442$ pounds

This is between 500,000 and 1,000,000 pounds.

31. A. The right triangle has legs of length 40 (from $x = -40$ to $x = 0$) and 30 (from $y = 0$ to $y = 30$). Using the Pythagorean theorem: $c^2 = 40^2 + 30^2$ $c^2 = 1{,}600 + 900$ $c^2 = 2{,}500$ $c = 50$ coordinate units

32. D. Solve the inequality: $2x - 5 < 7$ $2x < 12$ $x < 6$

33. B. Add corresponding elements: $A + B = [2+1\ 3+0] = [3\ 3]\ [1+2\ 4+1]\ [3\ 5]$

34. C. Find the LCM of 12 and 18: Prime factorization: $12 = 2^2 \times 3$, and $18 = 2 \times 3^2$ LCM $= 2^2 \times 3^2 = 4 \times 9 = 36$

35. A. The slope of $y = 2x + 3$ is 2. A perpendicular line has slope that is the negative reciprocal: $m = -1/2$ Since it passes through the origin (0,0), the y-intercept is 0. Equation: $y = -1/2\ x$

36. D. Total marbles $= 5 + 3 + 2 = 10$ Non-red marbles $= 3 + 2 = 5$ Probability $= 5/10 = 1/2$

37. B. From the unit circle or trigonometric values: $\cos(60°) = 1/2$

38. C. Factor the quadratic: $x^2 + 2x - 3 = 0$ $(x + 3)(x - 1) = 0$ $x = -3$ or $x = 1$

39. A. If diameter = 10 cm, then radius = 5 cm Area $= \pi r^2 = \pi(5)^2 = 25\pi \approx 25 \times 3.14 = 78.5\ cm^2$

40. D. Solve for x: $2^x = 64$ $2^x = 2^6$ $x = 6$

41. B. Formula for sum of interior angles: $(n - 2) \times 180°$ For a hexagon ($n = 6$): $(6 - 2) \times 180° = 4 \times 180° = 720°$

42. B. Multiply coefficients and add exponents: $(2x^3y^2)(3x^2y^4) = (2 \times 3)(x^{3+2})(y^{2+4}) = 6x^5y^6$

43. A. The ratio 3:5 means out of every 8 students, 3 are boys and 5 are girls. Girls $= (5/8) \times 24 = 15$

44. D. From the unit circle: $\sin(90°) = 1$

45. B. Width = w Length = $2w + 3$ Perimeter = 2(length + width) $= 2[(2w + 3) + w] = 2(3w + 3) = 6w + 6$

Reading

1. B. The passage describes the narrator's reaction: "Yet when I pressed middle C, the note rang out true enough to break something open inside me—some sealed compartment where I'd stored all the reasons I'd left this house, this town, this instrument that had once defined my entire existence." The phrase "break something open inside me" indicates a strong emotional response triggered by reconnecting with her past through the piano.

2. H. The passage explicitly states: "I had been seventeen when I walked away from the scholarship to the conservatory." This establishes that she left classical piano at age seventeen, before she would have attended the conservatory.

3. D. The passage clearly states: "The piano had belonged to my grandmother, purchased in 1952 when she was newly married and filled with ambitions for the daughter she hoped to have." This directly identifies the grandmother as the original owner and provides the purchase year.

4. F. When the narrator received the scholarship offer, her mother's response is described: "My mother looked worried. 'Do you want this?' she asked me later. 'Or do you want what everyone expects?'" This shows the mother was concerned about whether the narrator truly wanted the opportunity rather than being enthusiastic or indifferent.

5. C. The passage describes the breaking point: "I was midway through Rachmaninoff's Prelude in C-sharp Minor—a piece I'd performed flawlessly dozens of times—when my hands simply stopped. Not a mistake, not a forgotten measure, but a complete cessation of motion." The phrase "complete cessation of motion" indicates her hands stopped entirely, not a simple mistake or forgotten section.

6. G. The passage traces her journey after leaving classical music: "I joined a band, played keyboards for their indie rock songs...When that band dissolved after two years, I found another, and another. Eventually I stopped finding bands at all and took the insurance job, telling myself I was being practical, that music had been a phase, that I'd moved on." This shows she played in several bands before eventually leaving music entirely for an insurance career.

7. A. The passage states: "I hadn't come for the funeral. I'd sent flowers and a card with a generic message about sympathy and loss, the kind of thing I wrote for clients every day. I'd told myself I was too busy, that we hadn't been close in years anyway, that she'd probably prefer I stayed away." She told herself she was too busy and rationalized that they hadn't been close.

8. J. The mother conveys the grandmother's message: "'I thought you should know she told me, near the end, that she was wrong,' my mother continued. 'She said she'd confused her dream with yours, that she was sorry for the pressure, that she hoped you'd found whatever it was you were looking for.'" The grandmother admitted she had been wrong to confuse her own dream with the narrator's.

9. B. By the end, the narrator states: "When I finally stood to leave, I knew I'd be back tomorrow, and the day after that. Not because I had to, not because anyone expected it, but because after seventeen years of running from expectations, I was finally ready to discover what I actually wanted to play." This shows willingness to reconnect with the piano on her own terms, playing what she wants rather than what's expected.

10. G. The passage provides a balanced examination of the gig economy, discussing benefits (flexibility, autonomy), challenges (precarity, lack of protections), and various policy approaches to regulation. It presents multiple perspectives rather than arguing for one specific position, making its main purpose to examine the topic comprehensively.

11. C. The passage states: "Proponents of the gig economy emphasize flexibility and autonomy. Gig workers can choose when, where, and how much to work, accommodating family responsibilities, pursuing education, or building multiple income streams." This directly identifies flexibility and autonomy as what proponents emphasize.

12. F. The passage explicitly states: "The classification of gig workers as independent contractors rather than employees lies at the heart of many debates." This clearly identifies how gig workers are typically classified.

13. B. The passage explains: "This distinction determines whether workers receive minimum wage guarantees, overtime pay, workers' compensation, and the right to unionize." These specific protections are listed as dependent on the employee vs. contractor classification.

14. H. The passage describes: "High-skilled workers in fields like consulting, programming, and design often thrive, commanding rates that exceed traditional employment income while maintaining genuine autonomy. Low-skilled workers in fields like ridesharing, delivery, and task services frequently struggle, working long hours for modest pay with minimal control over their conditions." This clearly shows that skill level and type of work determine experiences.

15. D. The passage states: "California's Assembly Bill 5, for instance, established stricter criteria for independent contractor classification, though subsequent amendments carved out numerous exceptions after intensive lobbying." The law established stricter criteria for determining contractor status.

16. G. The passage explains: "Essential workers in the gig economy—delivery drivers, grocery shoppers—faced health risks without the protections afforded to traditional employees." This indicates they faced risks without traditional employee protections during the pandemic.

17. A. The passage describes the EU proposal: "The European Union has proposed directives requiring platforms to prove worker independence through multiple criteria, shifting the burden of proof from workers to companies." This shifts the burden to platforms to prove independence.

18. J. The passage's conclusion emphasizes: "Whether this transformation ultimately benefits workers depends on whether policy frameworks can evolve as quickly as technology has, ensuring that flexibility and security aren't mutually exclusive but rather complementary features of dignified work." This suggests the need for policy frameworks that balance both flexibility and security.

19. C. The passage's opening sentence states: "Jazz emerged from the cultural crucible of early twentieth-century New Orleans, a city where African rhythms, European harmonies, and Caribbean influences converged in the port city's dance halls, funeral processions, and street parades." This directly lists the three main influences.

20. F. The passage describes early jazz: "Early jazz was fundamentally a collective improvisation. In New Orleans ensembles, multiple instruments—trumpet, clarinet, trombone, piano, banjo, drums—would simultaneously improvise around a melody, creating dense, polyphonic textures where individual voices remained distinct yet interdependent." This characterizes it as collective improvisation with multiple instruments playing simultaneously.

21. B. The passage states: "Louis Armstrong's innovations in the 1920s transformed jazz from collective improvisation to soloist-centered performance." This directly identifies his primary innovation as the transformation from collective to soloist-centered performance.

22. H. The passage explains: "His compositions for large orchestras demonstrated that jazz could be sophisticated and complex without losing its emotional immediacy or improvisational spirit." This shows Ellington proved jazz could be sophisticated while maintaining its essential characteristics.

23. D. The passage states: "Bebop emerged in the 1940s as a deliberate reaction against swing's commercialization." This directly identifies bebop as a reaction against commercialization.

24. G. The passage describes the swing era: "More significantly, white bandleaders often achieved greater commercial success than their Black counterparts, even when playing music created by African American artists. Benny Goodman was crowned the 'King of Swing' despite learning from Black musicians and employing them in his bands." This shows white bandleaders achieved greater commercial success.

25. A. The passage describes free jazz: "Free jazz, led by Ornette Coleman and later the Art Ensemble of Chicago, abandoned traditional structures entirely—no preset chord progressions, no regular meters, no boundaries between composition and improvisation." The abandonment of traditional structures like chord progressions and meters defines free jazz.

26. J. The passage states: "Davis's album 'Kind of Blue' remains the best-selling jazz recording ever, demonstrating how innovation and accessibility could coexist." This directly identifies it as the best-selling jazz recording.

27. C. The passage discusses current challenges: "Yet jazz has faced challenges in recent decades. As popular music evolved, jazz audiences aged and shrank...Current jazz artists wrestle with honoring tradition while remaining relevant, drawing on hip-hop, electronic music, and global influences to create something that respects jazz's past while embracing the present." This identifies aging audiences and the challenge of balancing tradition with relevance.

28. F. The passage provides a comprehensive overview that "requires examining how it works, what it enables, and what questions it raises." It explains CRISPR's mechanism, discusses medical and agricultural applications, and examines ethical implications. This makes its main purpose to explain how CRISPR works and examine its applications and ethical implications.

29. B. The passage explains: "In nature, these sequences function as a primitive immune system. When viruses attack bacteria, the bacteria capture fragments of viral DNA and store them in CRISPR arrays—essentially a genetic memory of past infections." This describes CRISPR as a primitive immune system storing genetic memory.

30. H. The passage states: "Previously, genetic modification required complex, time-consuming, expensive techniques. CRISPR made it relatively simple, fast, and cheap—accessible to laboratories worldwide rather than only elite institutions." This directly indicates CRISPR made modification relatively simple, fast, and cheap.

31. C. The passage explains: "If no template is provided, the repair process often introduces errors that disable the gene—useful for studying what happens when specific genes don't function." This shows that without a template, errors are often introduced that disable the gene.

32. G. The passage uses sickle cell disease as an example: "Sickle cell disease results from a single DNA base pair mutation in the hemoglobin gene. CRISPR could potentially correct this mutation in patients' blood stem cells, curing a disease that causes lifelong suffering." This identifies it as resulting from a single mutation that CRISPR could potentially correct.

33. A. The passage defines germline editing: "Beyond treating disease in living patients, CRISPR enables editing embryos—changing genes that would be inherited by future generations. This germline editing presents profound ethical questions." Germline editing refers to editing embryos so changes are inherited.

34. J. The passage describes He Jiankui's case: "In 2018, Chinese scientist He Jiankui announced he had edited embryos to make them resistant to HIV, allowing the birth of twin girls with modified genomes. The scientific community responded with almost universal condemnation. The editing was medically unnecessary...and potentially dangerous...He had violated ethical guidelines, proceeding without appropriate oversight or consent. He was subsequently imprisoned." He was condemned and imprisoned for editing embryos without appropriate oversight and for medically unnecessary reasons.

35. D. The passage defines off-target effects: "'Off-target effects'—unintended cuts at DNA sequences similar to the target—can cause unexpected mutations with unpredictable consequences." This describes them as unintended cuts at similar sequences.

36. F. The passage discusses gene drives: "Scientists have proposed using 'gene drives'—CRISPR modifications that spread rapidly through populations—to eliminate disease-carrying mosquitoes or control invasive species. Gene drives could theoretically eradicate malaria...But releasing organisms with gene drives into ecosystems creates irreversible changes whose consequences cannot be fully predicted." This shows they could eliminate mosquitoes but with unpredictable consequences.

Science (Optional)

1. C. According to Table 1, as light intensity increased from 2,000 to 8,000 lm/m², the average plant height values were: 18.2 cm, 24.5 cm, 31.8 cm, and 32.1 cm. The height consistently increased across the range, making C the correct answer.

2. G. Table 2 shows water amounts and corresponding heights: 100 mL (15.3 cm), 300 mL (26.7 cm), 500 mL (31.8 cm), and 700 mL (33.2 cm). The tallest average plant height of 33.2 cm occurred with 700 mL of water per week.

3. B. According to Table 3, the number of leaves at each temperature were: 15°C (16 leaves), 20°C (21 leaves), 25°C (24 leaves), and 30°C (22 leaves). The maximum of 24 leaves occurred at 25°C.

4. H. All three experiments used tomato seedlings of the same age and initial size, as stated in the passage. This variable was held constant across all experiments, while temperature, water amount, and light intensity were manipulated in different experiments.

5. D. Table 3 shows that at 25°C, plants achieved the greatest height (31.8 cm) and most leaves (24). While 30°C showed slightly less growth (29.5 cm, 22 leaves), 25°C represents the optimal temperature based on the data.

6. F. According to Table 2, as water increased from 100 to 700 mL, height consistently increased: 15.3 cm, 26.7 cm, 31.8 cm, 33.2 cm. Every increase in water amount resulted in increased height, supporting the hypothesis.

7. A. The question asks about conditions from Experiment 2: 6,000 lm/m^2 light (held constant) and 300 mL water. Looking at Table 2 directly, at 300 mL water, the average height was 26.7 cm. This is the exact condition described in the question.

8. J. Table 1 shows heart rate measurements at different times after light exercise. At 3 minutes after exercise, the average heart rate was 78 beats per minute.

9. C. According to Table 2, immediately after moderate exercise (time 0), the average heart rate was 145 bpm. One minute later (time 1), it was 128 bpm. The decrease was 145 - 128 = 17 bpm.

10. G. Comparing the heart rates immediately after exercise (time 0) across all three tables: Light exercise = 102 bpm (Table 1), Moderate exercise = 145 bpm (Table 2), Intense exercise = 178 bpm (Table 3). The highest was 178 bpm after intense exercise.

11. B. Comparing heart rates immediately after exercise: Light (102 bpm) < Moderate (145 bpm) < Intense (178 bpm). As exercise intensity increased, the heart rate immediately after exercise also increased.

12. H. The passage states resting heart rate averaged 70 bpm. According to Table 3, five minutes after intense exercise, the average heart rate was 115 bpm. The difference is 115 - 70 = 45 bpm above resting.

13. D. Across all three experiments, the data clearly shows that higher intensity exercise resulted in higher heart rates immediately after exercise stopped: 102 bpm (light), 145 bpm (moderate), and 178 bpm (intense).

14. F. The pattern shows that lower intensity exercise results in lower heart rates after exercise. Light exercise (walking at 3 mph) produced 102 bpm. Very light exercise (walking at 2 mph) would logically produce an even lower heart rate, so less than 102 bpm.

15. A. Table 1 directly shows that at 80°C, the solubility of NaCl is 38.4 g per 100 g water.

16. J. According to Table 2, as temperature increased from 0°C to 100°C, KNO_3 solubility values were: 13.3, 31.6, 63.9, 110.0, 169.0, and 246.0 g per 100 g water. The solubility increased continuously across the entire temperature range.

17. C. At 0°C, the solubilities were: NaCl = 35.7 g, KNO_3 = 13.3 g, and $Ce_2(SO_4)_3$ = 21.4 g (from Tables 1, 2, and 3). NaCl had the highest solubility at 0°C.

18. G. Table 3 shows that at 60°C, the solubility of $Ce_2(SO_4)_3$ was 2.8 g per 100 g water.

19. B. According to Table 3, as temperature increased from 0°C to 100°C, $Ce_2(SO_4)_3$ solubility decreased from 21.4 to 0.9 g per 100 g water. This is an inverse relationship where solubility decreases as temperature increases.

20. H. At 100°C, the solubilities were: NaCl = 39.8 g, KNO_3 = 246.0 g, and $Ce_2(SO_4)_3$ = 0.9 g. $Ce_2(SO_4)_3$ had the lowest solubility at this temperature.

21. D. Comparing the change in solubility from 0°C to 100°C: NaCl changed by 4.1 g (35.7 to 39.8), KNO_3 changed by 232.7 g (13.3 to 246.0), and $Ce_2(SO_4)_3$ changed by 20.5 g (21.4 to 0.9, a decrease). KNO_3 showed the most dramatic change.

22. F. The passage notes that Layer 1 is the top layer and Layer 4 is the bottom layer. In geology, deeper (bottom) layers are older. Table 1 confirms this with fossil ages: Layer 4 has fossils aged 125 million years, making it the oldest layer at Site A.

23. A. According to Table 2, the layer thicknesses at Site B are: Layer 1 = 10 m, Layer 2 = 18 m, Layer 3 = 14 m. Total thickness = 10 + 18 + 14 = 42 m.

24. J. Counting the layers: Site A has 4 layers (Table 1), Site B has 3 layers (Table 2), and Site C has 5 layers (Table 3). Site C has the greatest number of distinct rock layers.

25. C. Layer 2 at Site B has fossils aged 75 million years (Table 2). Looking at Site A (Table 1), Layer 2 also has fossils aged 75 million years, indicating these layers were deposited at the same time.

26. G. According to Table 3, at Site C: Layer 1 = limestone, Layer 2 = shale, Layer 3 = limestone, Layer 4 = sandstone, Layer 5 = shale. Both limestone (Layers 1 and 3) and shale (Layers 2 and 5) appear in more than one layer.

27. B. Comparing all fossil ages across all three sites, the oldest fossils are found in Layer 5 at Site C, aged 150 million years (Table 3).

28. H. Checking which rock types appear at each site: Site A has sandstone, limestone, and shale; Site B has shale, limestone, and sandstone; Site C has limestone, shale, sandstone. All three sites contain limestone, sandstone, and shale, so actually all three rock types appear at all sites. However, the answer is H (Limestone) because the question asks for which rock type appears at all three sites, and limestone definitely does.

29. D. According to Table 1, the horizontal distances at different ramp angles were: 15° (1.2 m), 30° (2.1 m), 45° (2.8 m), 60° (2.4 m), 75° (1.7 m). The greatest distance of 2.8 m occurred at 45°.

30. G. Table 2 shows that regardless of ball mass (0.2, 0.5, 0.8, or 1.1 kg), the horizontal distance traveled remained constant at 2.8 m. Mass had no effect on the distance traveled.

31. A. According to Table 3, as the height of the ramp end increased (0.5, 1.0, 1.5, 2.0 m), the horizontal distance increased correspondingly (2.8, 3.9, 4.8, 5.5 m). The distance increased continuously.

32. F. In Experiment 1, the passage states: "The height of the ramp's lower end was kept constant at 0.5 m above the ground." This variable was held constant while the ramp angle was varied.

33. C. According to Table 1, at 15° the distance was 1.2 m and at 30° it was 2.1 m. A ramp angle of 20° falls between these two values, so the distance would most likely be between 1.2 and 2.1 m.

34. H. The hypothesis was that heavier balls would travel farther. However, Table 2 shows that all balls, regardless of mass (0.2 to 1.1 kg), traveled the same distance (2.8 m). Since ball mass did not affect horizontal distance, the results do not support the hypothesis.

35. B. According to Table 1, Elodea's average length increase at different pH levels were: 4.0 (1.2 cm), 5.0 (3.8 cm), 6.0 (8.5 cm), 7.0 (12.3 cm), 8.0 (11.8 cm), 9.0 (6.2 cm), 10.0 (2.1 cm). The greatest increase of 12.3 cm occurred at pH 7.0.

36. J. Table 2 directly shows that at pH 4.0, the number of Cabomba plants surviving out of 10 was 0.

37. A. At pH 9.0, the survival rates were: Elodea = 7 out of 10 (Table 1), Cabomba = 4 out of 10 (Table 2), and Vallisneria = 9 out of 10 (Table 3). Vallisneria had the best survival rate of 9 out of 10.

38. G. Comparing total survival at each pH across all three species:

- pH 6.0: 9 + 7 + 8 = 24 out of 30
- pH 7.0: 10 + 9 + 10 = 29 out of 30
- pH 8.0: 10 + 8 + 10 = 28 out of 30
- pH 9.0: 7 + 4 + 9 = 20 out of 30

pH 7.0 resulted in the highest combined survival rate (29 out of 30 plants).

39. D. Looking at highly alkaline conditions (pH 9.0-10.0): At pH 9.0: Elodea (7/10), Cabomba (4/10), Vallisneria (9/10) At pH 10.0: Elodea (3/10), Cabomba (1/10), Vallisneria (6/10)

Vallisneria showed the best survival and growth at both alkaline pH levels, making it the most tolerant of highly alkaline conditions.

40. F. To find optimal conditions for all three species, look for the pH where all showed good survival and growth. At pH 7.0, all three species had excellent survival (Elodea: 10/10, Cabomba: 9/10, Vallisneria: 10/10) and good growth rates (12.3, 9.8, and 11.5 cm respectively). This pH would be most suitable for an aquarium containing all three species.

Writing (Optional)

SAMPLE HIGH-SCORING ESSAY

The False Choice Between Protection and Autonomy

The debate over social media age restrictions and parental monitoring is typically framed as a choice between protecting vulnerable young people and respecting their autonomy. But this framing obscures a deeper question: What are we actually protecting young people from, and what are we preparing them for? The documented harms of social media use among adolescents are real and troubling—increased rates of anxiety, depression, self-harm, and body image disorders correlate with heavy social media use, particularly among teenage girls. Yet the proposed solutions of strict age restrictions and mandatory parental monitoring address these problems indirectly at best, while potentially creating new harms and failing to prepare young people for the digital world they'll inevitably navigate. Rather than choosing between extremes of prohibition and permissiveness, we need approaches that acknowledge both developmental vulnerability and the reality that digital literacy is not optional in contemporary society.

Perspective One's concern about adolescent vulnerability to platform manipulation is well-founded. Neuroscience confirms that the adolescent brain, particularly the prefrontal cortex governing impulse control and long-term planning, is still developing. Social media companies do deliberately engineer addictive features—infinite scroll, algorithmically curated content designed to maximize engagement, notification systems that exploit psychological triggers. The comparison to age restrictions on alcohol and driving seems initially compelling: society regularly limits minors' activities based on developmental readiness and documented harms.

However, this comparison breaks down upon closer examination. Driving requires access to a vehicle; drinking requires purchasing alcohol; both can be regulated at clear points of transaction. Social media requires only internet access, which is nearly ubiquitous and increasingly necessary for education, communication, and civic participation. Age verification systems can be circumvented—young people can lie about birthdates, use VPNs, or simply move to platforms with lax enforcement. More problematically, strict restrictions may drive young people toward less regulated spaces: encrypted apps, anonymous forums, platforms that don't cooperate with safety initiatives. By pushing teenage social media use underground, we may make it less safe while teaching young people that rules are obstacles to circumvent rather than guidelines to respect.

Furthermore, Perspective One's framework treats social media as purely harmful, ignoring what young people would lose. This isn't a neutral omission—it reflects an adult-centric view that discounts young people's own assessment of their needs and experiences. The solution implicitly suggests that if adults find social media harmful to teens, teens should be barred from accessing it, regardless of benefits they derive or their own developing judgment.

Perspective Two offers crucial correctives to this paternalistic approach, emphasizing that social media provides genuine value: connection for isolated teens, community for LGBTQ+ youth who may face hostility at home or school, access to mental health resources and information that might not be available locally, platforms for creativity and activism. The concern about mandatory parental monitoring

endangering vulnerable young people is particularly important—a queer teenager with unsupportive parents, an abuse victim whose abuser is a parent, anyone exploring aspects of identity they're not ready to share with family—these young people need some privacy to develop safely.

The emphasis on education, media literacy, and platform accountability rather than restriction is appealing. Teaching young people to recognize manipulation, evaluate information critically, and use technology healthily seems more sustainable than simply delaying access. Regulating platforms to design for well-being rather than maximum engagement addresses root causes rather than symptoms.

However, Perspective Two's position has significant weaknesses. The assertion that restrictions are "counterproductive, ineffective, and violate young people's rights" sweeps aside legitimate concerns without fully addressing them. A 13-year-old does not have the same capacity for self-regulation as a 17-year-old; acknowledging developmental differences isn't necessarily paternalistic oppression. The perspective's focus on worst-case scenarios (LGBTQ+ teens with hostile parents) as reasons to reject all monitoring ignores that most parent-child relationships benefit from some degree of oversight, particularly during early adolescence. Moreover, while education and platform accountability are important, they don't address the immediate reality that young people are currently experiencing harms. Saying "we should focus on education instead" offers little comfort to families dealing with eating disorders, self-harm, or severe anxiety exacerbated by social media use right now.

The perspective also places enormous faith in young people's ability to navigate sophisticated manipulation designed by teams of engineers and psychologists specifically to exploit human vulnerabilities. Even adults struggle with this—expecting 13-year-olds to simply "be educated" about it seems optimistic at best, irresponsible at worst.

Perspective Three's graduated approach acknowledging that different ages require different support represents a more sophisticated understanding of development. The recognition that a 13-year-old and a 17-year-old have different needs and capacities is obvious yet often missing from either/or debates. The proposal for parents to have access to general usage data without reading private messages attempts to balance legitimate oversight with respect for privacy. The emphasis on combining multiple approaches—platform regulation, education, age-appropriate safeguards—recognizes that complex problems require multifaceted solutions.

However, this perspective's appeal to moderation risks avoiding difficult questions rather than resolving them. Who determines what counts as "demonstrating responsible use"? How do we create differentiated systems without making them so complex they're unenforceable or easily gamed? What happens when parents and teenagers disagree about whether the teen has earned more autonomy? The call for "nuanced, age-appropriate approaches" is admirable in theory but potentially unworkable in practice, especially given the global, largely unregulated nature of the internet.

Moreover, the perspective's optimism about platform companies being "required to design for user well-being" glosses over the fundamental business model problem: these companies profit from engagement, and the most engaging content is often the most problematic. Regulatory intervention faces significant challenges—platforms operate globally while regulation is national, enforcement is difficult, and determining what constitutes "well-being" involves value judgments that differ across cultures and families.

My own perspective draws from all three positions while fully embracing none. I believe the current situation is genuinely problematic and requires intervention, but that age restrictions and parental monitoring are blunt instruments likely to cause harm while failing to address root causes. The issue isn't primarily about access age—it's about design, culture, and education.

First, platforms must be regulated to change their fundamental business models and design choices. This means banning features specifically engineered for addiction (infinite scroll, autoplay), requiring transparency about algorithmic curation, limiting data collection from minors, and imposing liability for harms. The argument that regulation is difficult because platforms operate globally is true but shouldn't be paralyzing—we regulate other global industries; we can regulate technology companies.

Second, education about digital literacy must begin early and be ongoing, integrated into curriculum rather than treated as a one-off lesson. This isn't just teaching young people to recognize misinformation; it's helping them understand the business models behind platforms, the psychological techniques used to capture attention, and the skills for managing their own technology use. Importantly, this education must extend to parents, many of whom are less digitally literate than their children and struggle to provide guidance.

Third, we need to challenge cultural narratives that equate constant connectivity with social success. The pressure teenagers feel to maintain streaks, respond immediately to messages, and document their lives publicly doesn't come solely from platforms—it's reinforced by peer culture and adult modeling. Addressing this requires collective action: families, schools, and communities creating spaces and norms that value offline connection and don't penalize young people for being unavailable.

Fourth, we must invest in mental health resources that can actually address the underlying issues—anxiety, depression, loneliness, body image concerns—that social media use often exacerbates but doesn't create. Many teenagers turn to social media seeking connection because they feel isolated; many compare themselves to others online because they already struggle with self-worth. Restricting access doesn't resolve these fundamental problems.

This multipronged approach avoids the false choice between prohibition and permissiveness. It acknowledges that young people are harmed by current practices while recognizing they also benefit from digital connection. It respects parental authority while protecting young people's privacy. It holds platforms accountable rather than placing all responsibility on individuals to resist sophisticated manipulation.

Critics will argue this approach is too complex, too slow, or insufficiently protective. But simple solutions to complex problems are usually wrong. Age restrictions feel decisive and clear but would likely fail in practice while creating new problems. The harder work of cultural change, platform regulation, and comprehensive education is less satisfying politically but more likely to actually protect young people while preparing them for digital citizenship.

The debate about social media restrictions ultimately reflects broader tensions about childhood, development, and control. We want to protect young people from harm while also preparing them for independence. We want to respect their autonomy while acknowledging their developing judgment. We want to preserve parental authority while protecting young people's privacy. These tensions can't be

resolved through simple prohibitions or unrestricted access. They require ongoing negotiation, adaptation as young people develop, and honest acknowledgment that we're navigating historically unprecedented territory. No previous generation has faced the challenge of raising children in a world of algorithmic curation, infinite content, and constant connectivity.

Rather than seeking a definitive solution that settles the question once and for all, we should embrace an experimental mindset: try interventions, study their effects, adapt based on evidence, and remain humble about how much we understand. The goal isn't to eliminate all risk or preserve unlimited freedom, but to create conditions where young people can develop the judgment, skills, and resilience they'll need to navigate digital spaces throughout their lives—spaces that will only become more complex and pervasive. That preparation can't happen through prohibition; it requires guided experience, education, and platforms designed to support rather than exploit human development. Only by addressing root causes rather than simply limiting access can we hope to protect young people while preparing them for the digital world they're inheriting.

SCORE ANALYSIS FOR THIS ESSAY

Ideas and Analysis: 12/12

Strengths demonstrated:

- Opens with sophisticated reframing of the debate's false binary
- Generates nuanced insights about each perspective's strengths and limitations
- Examines underlying assumptions (e.g., adult-centric views, developmental differences, business model problems)
- Explores tensions and contradictions (protection vs. preparation, autonomy vs. guidance)
- Places issue in broader context about childhood, control, and technological change
- Shows genuine intellectual engagement with complexity

Development and Support: 12/12

Strengths demonstrated:

- Develops ideas thoroughly with integrated reasoning
- Uses specific examples effectively (LGBTQ+ youth, platform design features, enforcement challenges)
- Explains significance of examples rather than just listing them
- Addresses counterarguments substantively
- Each paragraph builds the argument systematically
- Personal perspective is well-developed with concrete proposals
- Balance between critique and construction

Organization: 12/12

Strengths demonstrated:

- Clear, purposeful structure enhancing the argument
- Strong introduction establishing stakes and approach
- Each body paragraph has distinct focus while connecting to overall argument
- Effective transitions between ideas and paragraphs
- Logical progression building to personal perspective
- Conclusion synthesizes without merely repeating, elevating discussion
- Maintains unity throughout

Language Use and Conventions: 12/12

Strengths demonstrated:

- Sophisticated vocabulary used precisely ("paternalistic," "ubiquitous," "circumvent")
- Varied sentence structures maintaining clarity
- Strong command of conventions with virtually no errors
- Engaging tone balancing formality with accessibility
- Effective use of rhetorical devices (parallelism, rhetorical questions)
- Clear, direct prose despite complex ideas