

# PRACTICE EXAM 28: ARKANSAS BUSINESS AND LAW SIMULATION (50 QUESTIONS)

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**Total Questions:** 50 | **Time Limit:** 2 Hours | **Passing Score:** 70% (35/50)

This practice exam mirrors the official Arkansas Contractor Business and Law Examination in format, domain weighting, and difficulty. Answer all questions by selecting the single best answer.

## **DOMAIN: BUSINESS ORGANIZATION (1 Question)**

1. A contractor operates as a sole proprietorship earning \$350,000 in annual net income. The contractor's CPA recommends forming an LLC with SCorporation tax election. Under the SCorporation structure, the contractor would pay themselves a reasonable salary of \$155,000 and take the remaining \$195,000 as a shareholder distribution. Compared to the sole proprietorship, approximately how much would the contractor save annually in selfemployment taxes on the distribution amount?

A. Approximately \$27,540 — as a sole proprietor, the full \$350,000 is subject to the 15.3% selfemployment tax (subject to the Social Security wage base cap and the 92.35% adjustment), but under the SCorporation election, only the \$155,000 salary is subject to FICA while the \$195,000 distribution avoids employment taxes entirely, generating savings of approximately 15.3% on the portion below the wage base and 2.9% on the excess

B. \$0, because SCorporation shareholders pay the same selfemployment tax rate as sole proprietors on all business income

C. \$53,550, calculated at the full 15.3% rate on the entire \$350,000 without the wage base cap

D. \$10,000, representing a flat tax credit available to all SCorporation shareholders regardless of income level

**DOMAIN: LICENSING (4 Questions)**

2. A contractor holds a restricted commercial license with a \$750,000 perproject cap. The contractor enters into a joint venture with another licensed contractor to bid on a \$2,400,000 commercial project. The joint venture agreement specifies that each contractor's share of the work is \$1,200,000. Can the restricted license holder participate in this joint venture?

A. Yes, because joint ventures automatically exempt participants from individual license limitations

B. Yes, because each contractor's share (\$1,200,000) is the relevant figure and it falls within the restricted cap with change order allowances

C. The contractor should consult the ACLB because joint venture participation on projects exceeding the restricted license cap raises licensing questions — the total project value of \$2,400,000 and even the contractor's \$1,200,000 share both exceed the \$750,000 restricted cap, and the ACLB may require the restricted contractor to upgrade to an unrestricted license before participating

D. No, because joint ventures are prohibited for contractors holding restricted licenses regardless of the project value

3. A licensed contractor in Arkansas is hired to build a \$180,000 detached commercial office building for a small business. During construction, the local building department discovers that the contractor's commercial license classification is Highway Construction (HY) only — they do not hold a Building Construction (BU) classification. The contractor argues that their commercial license authorizes all commercial construction work. Is the contractor's argument valid?

A. Yes, because any commercial license classification authorizes all types of commercial construction work within the license tier

B. Yes, because a detached commercial office building under \$200,000 can be performed under any commercial classification

C. No, but the contractor can continue if they add a licensed BU subcontractor to perform the buildingspecific work

D. No, because each license classification authorizes only the specific type of work covered by that classification — Highway Construction (HY) authorizes road, bridge, and highway work, not building construction, and performing building construction work under an HY classification is equivalent to operating without a license for that type of work

4. A contractor's license is suspended by the ACLB for 60 days due to failure to maintain the required surety bond. During the suspension, the contractor receives an inquiry from a potential client about a \$400,000 commercial project that would begin after the suspension period ends. Can the contractor negotiate and sign the contract during the suspension period?

A. Yes, because the contractor can sign contracts at any time as long as the actual construction work begins after the suspension is lifted

B. The contractor should exercise extreme caution — while negotiating during suspension may not constitute "performing construction work," signing a binding contract to perform licensable work during a period when the license is suspended could be viewed by the ACLB as operating outside the terms of the suspension, and the safest approach is to wait until the license is reinstated before executing any new contracts

C. Yes, because contract negotiations are administrative activities not covered by the license suspension

D. No, because the ACLB automatically revokes all suspended licenses after 30 days, making the contractor permanently ineligible for the project

5. A homeowner hires a licensed residential builder to construct a \$250,000 custom home. During construction, the homeowner and contractor have a dispute over the quality of the drywall finishing. The homeowner withholds the final \$35,000 payment. The contractor files a mechanics' lien on the property. The homeowner then files a complaint with the ACLB alleging substandard workmanship. How do the mechanics' lien, the ACLB complaint, and the payment dispute interact?

A. All three proceedings operate independently — the mechanics' lien is a civil property claim enforced through the courts, the ACLB complaint is an administrative licensing action within the Board's jurisdiction, and the payment dispute is a contract matter resolved through the contract's dispute resolution provisions or civil litigation — each proceeding addresses a different legal issue and can proceed simultaneously without one depending on the outcome of the others

B. The ACLB complaint supersedes the mechanics' lien because the Board has primary jurisdiction over all contractor disputes

C. The mechanics' lien automatically resolves the ACLB complaint in the contractor's favor because the lien proves the homeowner is withholding payment

D. The contractor must withdraw the mechanics' lien before the ACLB will investigate the quality complaint

**DOMAIN: ESTIMATING AND BIDDING (4 Questions)**

6. A contractor's estimator is calculating the selling price for a project with \$975,000 in direct costs. The contractor's annual overhead is \$288,000 on \$1,920,000 in annual direct cost volume. The contractor targets a net profit margin of 6% on the selling price. What is the correct selling price?

- A. \$1,033,500, calculated by adding overhead but using markup on cost instead of margin on selling price
- B. \$975,000, representing direct costs only without overhead or profit
- C. \$1,179,255, calculated by allocating overhead at 15% (\$146,250), adding to direct costs (\$1,121,250), and dividing by 0.94 to achieve 6% margin on selling price
- D. \$1,195,500, calculated by applying a flat 22.6% combined markup to direct costs

7. A public project bid requires submission of unit prices for 25 items. After contract award, the actual quantity of Item 8 (structural concrete) decreases from the estimated 400 cubic yards to 180 cubic yards — a 55% reduction. The contractor bid Item 8 at \$350 per cubic yard, which included significant fixed costs (formwork, pump setup, testing) spread across the estimated 400 cubic yards. At the reduced quantity of 180 cubic yards, the contractor's actual cost per cubic yard increases to \$520 because the same fixed costs are spread across fewer cubic yards. Does the contractor have a basis for requesting a unit price adjustment?

- A. No, because unit prices are fixed regardless of quantity variations and the contractor assumed all quantity risk
- B. Yes, if the contract includes a quantity variation clause — many construction contracts allow renegotiation of unit prices when actual quantities differ from estimated quantities by more than a specified percentage (typically 15-25%), because extreme quantity variations can fundamentally change the economics of unitpriced work by altering the allocation of fixed costs across the installed quantity
- C. Yes, but only for quantity increases exceeding 200% of the estimated amount
- D. No, because the contractor should have anticipated a potential 55% reduction and priced accordingly

8. A contractor receives subcontractor quotes for the mechanical (HVAC) work on a commercial project: \$380,000, \$395,000, \$412,000, and \$365,000. The \$365,000 lowest quote does not include startup, commissioning, controls integration, or the testandbalance report — items that the other three quotes include. The estimator contacts the low bidder, who provides an additional \$48,000 for the excluded scope. What should the estimator do next?

- A. Use the original \$365,000 quote because the excluded items can be negotiated after contract award
- B. Use the \$380,000 secondlowest quote because the original low bidder's incomplete initial quote indicates poor attention to detail
- C. Average all four quotes including the adjusted low bid and use the average as the mechanical budget
- D. Compare the adjusted low bid (\$413,000) against the other three complete quotes (\$380,000, \$395,000, \$412,000) on an apples-to-apples basis — the \$380,000 quote is now the lowest complete bid and should be used unless the estimator has a specific reason to prefer a different subcontractor based on qualifications or reliability

9. A contractor is bidding on a public library construction project. The architect issues Addendum #3 four days before the bid deadline, changing the structural steel connections from bolted to welded throughout the building. The contractor's structural steel subcontractor needs at least 7 days to reestimate the welded connections. The contractor does not have time to obtain an accurate welded connection price before the deadline. What is the contractor's best course of action?

- A. Request a bid deadline extension from the owner, citing the material scope change issued too close to the deadline for adequate pricing — if the extension is denied, the contractor must decide whether to bid with an estimated welding premium based on historical data (accepting the pricing risk) or decline to bid on this project
- B. Submit the bid using the original bolted connection price and negotiate the difference after award
- C. Ignore Addendum #3 because addenda issued less than 7 days before the deadline are automatically void
- D. Submit the bid without acknowledging Addendum #3 on the bid form and address the discrepancy during contract negotiations

#### **DOMAIN: CONTRACT MANAGEMENT (8 Questions)**

10. A contractor on a fixed-price commercial project submits a change order for \$55,000 to address a design error — the mechanical drawings show a duct routing that conflicts with a structural beam, requiring the ductwork to be rerouted through a longer, more complex path. The architect acknowledges the design error. The owner approves the change order but wants to deduct the cost from the architect's fee. Under the standard contract relationships, how is the \$55,000 handled?

- A. The architect pays the contractor directly because design errors are the architect's financial responsibility under their professional services agreement
- B. The owner deducts the cost from the architect's next invoice and the contractor waits for the architect's payment
- C. The owner pays the contractor \$55,000 through the change order process as part of the construction contract, then separately pursues recovery from the architect through the owner-architect agreement or the architect's professional liability insurance — the contractor's payment obligation is with the owner, not the architect
- D. The contractor absorbs the cost because design errors are a normal project condition included in the base bid contingency

11. A general contractor on a commercial project subcontracts the painting work. The subcontract includes a flowdown clause incorporating the prime contract's quality standards. The prime contract requires all interior paint to be applied in two coats with a minimum dry film thickness (DFT) of 3.0 mils. The painting subcontractor applies only one coat, achieving a DFT of 1.8 mils. The architect rejects the paint application during a field observation. Who bears the cost of applying the second coat?

- A. The architect, because the one-coat issue should have been caught during the submittal review process
- B. The painting subcontractor bears the cost because the flowdown provision binds them to the prime contract's two-coat specification — applying only one coat is a clear violation of the specification, and the subcontractor must apply the second coat at their own expense to bring the DFT to the required 3.0 mils
- C. The general contractor bears the cost because they failed to supervise the painting subcontractor's application process
- D. The owner bears the cost through a change order because paint thickness specifications are design requirements

12. A project owner issues a change order deleting \$110,000 of interior landscaping (planters, irrigation, growing medium) because the owner has decided to contract with a specialty interior landscaping company after the building is completed. The contractor's bid for the interior landscaping included \$88,000 in direct costs and \$22,000 in overhead and profit. The contract states: "Deductive change orders shall be calculated at direct cost savings." What is the correct deduction?

- A. \$110,000, representing the full bid amount including overhead and profit
- B. \$66,000, calculated at 60% of the direct cost as a reduced deduction

- C. \$99,000, calculated by applying a 10% administrative fee reduction to the full bid amount
- D. \$88,000, representing the direct cost savings only — the contractor retains the \$22,000 in overhead and profit because the contract specifies deductive change orders at "direct cost savings," protecting the contractor's margin on deleted scope

13. A contractor working on a commercial renovation discovers extensive termite damage to the existing floor joists in an area where the contract documents show "existing wood framing in good condition." The termite damage was concealed behind finished surfaces and was not visible during the prebid walkthrough. The repair cost is \$78,000. The owner argues the contractor should have conducted a termite inspection before bidding. Under the differing site conditions clause, is the owner's argument valid?

- A. Yes, because all renovation contractors must conduct independent structural and pest inspections before bidding
- B. Yes, because termite damage is a foreseeable condition in older woodframed buildings that should be included in the bid
- C. No, because the contract documents represented the existing framing as being "in good condition" — the contractor relied on this representation, the actual condition (extensive termite damage) differs materially from what was represented, and the contractor was not required to conduct independent invasive inspections beyond what the contract documents provided
- D. No, but the contractor can recover only 50% of the repair cost because concealed conditions are a shared risk

14. A contractor on a school project receives a verbal directive from the principal to install additional electrical outlets in 12 classrooms — work not included in the original contract. The contractor estimates the work at \$24,000. The contractor completes the work without obtaining a written change order because the principal said "just add it to the bill." When the contractor includes the \$24,000 in the next payment application, the school district refuses to pay, arguing the principal has no authority to authorize construction changes. What is the contractor's situation?

- A. The contractor's position is weakened because the principal may not have contractual authority to authorize construction changes — school construction contracts typically designate specific individuals (the superintendent, facilities director, or board) as the owner's authorized representative for change orders, and the contractor should have verified the principal's authority before performing the additional work
- B. The contractor has a strong position because the principal's directive constitutes a binding oral change order

C. The contractor can recover the full \$24,000 plus a 15% premium for the administrative burden of working without formal authorization

D. The school district must pay because all school employees have implied authority to authorize construction changes

15. A construction contract includes a dispute resolution clause requiring: (1) negotiation between the parties; (2) mediation; (3) binding arbitration. A \$180,000 dispute arises over contested change orders. Both parties complete the negotiation step without resolution. During mediation, the mediator proposes a settlement of \$110,000. The contractor accepts the proposed settlement but the owner rejects it. The contractor wants to proceed to arbitration. Can the mediator's proposed settlement be introduced as evidence in the arbitration proceeding?

A. Yes, because the mediator's proposal represents an expert valuation of the dispute that should guide the arbitrator's decision

B. Yes, because both parties were present when the proposal was made and the contractor accepted it

C. No, but only if the owner formally objected to the proposal during the mediation session

D. No, because mediation communications — including the mediator's proposals, offers, and counteroffers — are generally confidential and inadmissible in subsequent proceedings, including arbitration, to preserve the integrity of the mediation process and encourage candid negotiation

16. A subcontractor on a commercial project completes their concrete work and submits a final payment application for \$92,000 including retainage. The general contractor approves the application and has received the corresponding payment from the owner. However, the GC withholds \$15,000, stating they need to "reserve funds for potential punch list corrections." The punch list has not yet been issued and the subcontractor's work has not been rejected. Is the withholding justified?

A. Yes, because general contractors have a standard right to withhold 15% of final payments as a punch list reserve

B. No, because withholding payment based on speculative future punch list items that have not been identified is not a legitimate contractual basis for withholding earned payment — the GC has approved the work, no deficiencies have been noted, and the subcontractor is entitled to the full approved amount

C. Yes, because the punch list has not been issued and the GC is prudently protecting against future corrections

D. No, but only if the subcontractor provides a written warranty letter guaranteeing responsiveness to future punch list items

17. A contractor completes a commercial building. The contract requires a one-year warranty from substantial completion. During the warranty period, the building owner discovers that the parking lot pavement is cracking extensively. The contractor inspects and determines that the cracking is caused by the geotechnical engineer's failure to properly design the pavement subbase for the actual soil conditions — not by the contractor's paving installation, which conformed to the approved plans and specifications. Under the warranty, is the contractor responsible for the pavement cracking?

A. No, because the contractor's warranty covers defects in materials and workmanship — the paving was installed in conformance with the approved plans and specifications, and the cracking is caused by a design deficiency in the subbase engineering, which is the responsibility of the design team, not the contractor who faithfully executed the specified design

B. Yes, because all pavement defects during the warranty period are automatically the contractor's responsibility

C. Yes, because the contractor should have identified the subbase design error before installing the pavement

D. No, but only if the contractor can prove the geotechnical engineer's design was deficient through independent testing

18. A contractor on a hospital project encounters a 3-week delay because the city's water department takes significantly longer than expected to approve the new water service connection. The contract lists "governmental approvals and permits" as excusable delay events. The contractor requests a 3-week time extension and \$36,000 in extended overhead. Under a typical excusable delay provision, what is the contractor entitled to?

A. Both the time extension and the full \$36,000 in overhead costs because governmental delays are always compensable

B. The \$36,000 in overhead only, without a time extension, because the contractor should accelerate to recover the delay

C. A 3-week time extension only — excusable delay clauses typically provide additional time but not additional monetary compensation, because the financial risk of delays caused by events beyond either party's control remains with the contractor while the schedule risk is shared through the time extension

D. Neither, because the contractor should have anticipated governmental approval delays and included sufficient time in the original schedule

19. A project architect conducts a final inspection and issues a punch list of 85 items. The contractor reviews the list and identifies 6 items that describe upgrades or enhancements not

shown in the original contract documents — for example, "install decorative door hardware" when the contract specifies standard commercial hardware. What should the contractor do?

- A. Complete all 85 items to expedite final payment without raising any objections
- B. Refuse to complete any punch list items until the 6 disputed items are formally removed
- C. File a mechanics' lien for the cost of the 6 outofscope items before completing any punch list work
- D. Complete the 79 undisputed items promptly while formally disputing the 6 outofscope items in writing — request either removal from the punch list or processing as a change order, and continue goodfaith closeout efforts on the legitimate items without allowing the disputed items to delay the entire closeout process

20. A contractor on a commercial project discovers that the HVAC subcontractor has been installing refrigerant piping using Type L copper instead of the specified Type K copper. Type K has a thicker wall than Type L and is specified for higherpressure applications. Approximately 300 linear feet of Type L piping has been installed and brazed. The HVAC subcontractor argues that Type L is adequate for the system's operating pressure. What should the contractor do?

- A. Accept the Type L installation because the subcontractor's engineering judgment on pipe wall thickness should be trusted
- B. Notify the architect and mechanical engineer of the material substitution immediately, request a formal determination on whether Type L is structurally adequate for the specified operating pressures, and prepare for the possibility that the engineer may require removal and replacement with Type K at the HVAC subcontractor's expense — the unauthorized substitution of a thinnerwalled pipe in a pressurized system is a potential safety concern that requires engineering evaluation
- C. Apply a surface coating to the Type L pipe to increase its effective wall thickness to Type K equivalence
- D. Document the substitution in the asbuilt drawings and address the issue through the warranty period if failures occur

**DOMAIN: PROJECT MANAGEMENT (6 Questions)**

21. A project manager on a \$7,000,000 commercial project calculates earned value at the 55% completion mark: BAC = \$7,000,000; PV = \$3,850,000; EV = \$3,500,000; AC = \$3,700,000. The project manager wants to calculate the ToComplete Performance Index (TCPI) — the required CPI for the remaining work to finish on budget. What is the TCPI and what does it mean?

A.  $TCPI = (\$7,000,000 - \$3,500,000) \div (\$7,000,000 - \$3,700,000) = \$3,500,000 \div \$3,300,000 = 1.061$  — meaning the remaining work must achieve a CPI of 1.061 (getting \$1.06 of value per dollar spent) to finish on the original \$7,000,000 budget, which is a 6.1% improvement over the current CPI of 0.946, requiring meaningful cost corrective action

B.  $TCPI = 0.946$ , equal to the current CPI, indicating the remaining work can continue at the same pace

C.  $TCPI = 1.00$  because the remaining budget exactly matches the remaining work at any completion percentage

D. TCPI cannot be calculated until the project reaches 75% completion

22. A contractor's superintendent discovers that the fire sprinkler subcontractor installed ordinary temperature sprinkler heads (155°F activation) in the mechanical room instead of the specified high temperature heads (212°F activation). The mechanical room contains a boiler and hot water heaters that generate ambient temperatures regularly exceeding 155°F. What is the immediate safety concern?

A. No safety concern because ordinary sprinkler heads function properly in all commercial building environments

B. The mismatch creates a cosmetic issue because different temperature ratings have different colored caps, but there is no functional concern

C. The ordinary temperature heads will activate inadvertently when the mechanical room's normal operating temperature exceeds their 155°F rating — causing unwanted sprinkler discharge, water damage to equipment, and disruption of building systems, while simultaneously reducing water pressure available for actual fire suppression elsewhere in the building

D. The concern is limited to warranty coverage because the sprinkler manufacturer may void the warranty for incorrect temperature rating selection

23. A project schedule shows the following critical path: Excavation (8 days) → Foundation (14 days) → Steel (20 days) → Roofing (8 days) → MEP RoughIn (16 days) → Drywall (10 days) → Finishes (18 days) → Closeout (4 days). Total: 98 days. The owner issues a change order adding a rooftop mechanical penthouse requiring 6 additional days of steel erection, 4 additional days of roofing, and a new 10 day penthouse construction activity between Roofing and MEP RoughIn. What is the revised critical path duration?

A. 104 days, calculated by adding only the 6 steel days to the original 98 day schedule

B. 108 days, calculated by adding the 6 steel days and the 4 roofing days but absorbing the penthouse within existing float

C. 98 days, unchanged because the penthouse work can be performed concurrently with MEP RoughIn

D. 118 days, calculated as the original 98 days plus 6 additional steel days plus 4 additional roofing days plus 10 penthouse construction days — all additions are on the critical path with finish-to-start relationships

24. A contractor managing a renovation in an occupied nursing home must replace the fire alarm control panel. The replacement requires a complete fire alarm system shutdown of approximately 6 hours. The contract requires continuous fire alarm coverage in all occupied patient care areas. State regulations prohibit any interruption of fire alarm service in licensed healthcare facilities without an approved interim fire safety plan. What should the contractor do?

A. Replace the panel during nighttime hours when fewer staff members are present and the risk of fire is statistically lower

B. Develop and submit an interim fire safety plan to the state fire marshal or authority having jurisdiction for approval before the shutdown — the plan must include continuous fire watch patrols in all occupied areas, portable fire extinguisher placement, manual notification procedures, coordination with the local fire department, and staff notification, and the panel replacement can proceed only after the interim plan is approved

C. Install the new panel alongside the existing one and switch over during a brief 30-second interruption

D. Postpone the panel replacement until all residents can be temporarily relocated to another facility

25. A contractor's three-week lookahead schedule reveals that the drywall subcontractor is scheduled to begin hanging drywall on the second floor next week, but the electrical and plumbing rough-in on the second floor has not been inspected. The inspections are required before any wall closure. The electrical subcontractor completed their rough-in 3 days ago but has not called for inspection. What should the project manager do?

A. Immediately contact the electrical and plumbing subcontractors to schedule their inspections, coordinate with the building inspector for the earliest available inspection dates, and adjust the drywall start date to follow the inspection approvals — because drywall cannot begin until the concealed rough-in work passes inspection, and proactive coordination prevents the drywall crew from mobilizing to a floor where they cannot work

B. Allow the drywall to proceed and schedule the inspections after the walls are closed

C. Have the general contractor's superintendent conduct the rough-in inspections in place of the building inspector

D. Cancel the drywall subcontract because the schedule delay makes them unable to meet the original completion date

**DOMAIN: INSURANCE AND BONDING (3 Questions)**

26. A contractor carries both a CGL policy and a professional liability (errors and omissions) policy. The contractor is hired to perform designbuild construction on a commercial project. During construction, a design error in the contractor's structural engineering causes a floor system to deflect excessively under load. The remediation costs \$280,000. Which policy responds to this claim?

A. The CGL policy, because the deflection occurred during the construction phase and is therefore a construction-related claim

B. Both policies respond equally, each paying 50% of the claim

C. Neither policy covers designbuild design errors because they fall in a coverage gap between the two policies

D. The professional liability (E&O) policy responds because the claim arises from a design error — the structural engineering deficiency is a professional services error, not a construction operations occurrence, and professional liability insurance specifically covers claims arising from errors in professional design services

27. A surety evaluates a contractor for a \$2,500,000 performance bond. The contractor's financial statements show: working capital \$200,000; net worth \$680,000; annual revenue \$5,200,000; existing bonded backlog \$2,200,000. The surety uses a multiplier of 15 times working capital. What is the likely assessment?

A. Automatic approval because the contractor's revenue demonstrates sufficient operational capacity

B. The bonding capacity is \$3,000,000 ( $15 \times \$200,000$ ), and with \$2,200,000 already committed, only \$800,000 of capacity remains — the \$2,500,000 bond request exceeds available capacity by \$1,700,000, and the surety will likely deny the bond unless the contractor substantially increases working capital or completes existing bonded projects

C. Conditional approval with a requirement for the contractor to provide a personal indemnity agreement

D. Automatic approval because working capital capacity (\$3,000,000) exceeds the single bond request (\$2,500,000)

28. A contractor's workers' compensation carrier sends the annual premium audit results. The audit reveals that the contractor's actual payroll was \$1,800,000 compared to the estimated payroll of \$1,500,000 used to calculate the initial premium. The base rate across all classifications averages \$12.00 per \$100 of payroll. The contractor's EMR is 0.95. What is the approximate additional premium owed?

A. \$36,000, calculated at the base rate on the full payroll difference without the EMR adjustment

B. \$300,000, calculated at the base rate on the full actual payroll without crediting the premium already paid

C. Approximately \$34,200, calculated as the premium on the \$300,000 payroll difference ( $\$300,000 \div \$100 \times \$12.00 \times 0.95 = \$34,200$ ) — the audit reconciles actual payroll against estimated payroll, and the contractor owes the difference between the premium calculated on actual payroll and the premium already paid based on estimated payroll

D. \$0, because premium audits cannot result in additional charges when the payroll increase is due to hiring additional workers rather than paying existing workers more

### **DOMAIN: OSHA RECORDKEEPING (3 Questions)**

29. A construction worker is stacking lumber when a board falls from the top of the stack and strikes their hard hat. The hard hat absorbs the impact but the worker reports a headache and neck stiffness. The site medic provides an ice pack and overthecounter acetaminophen. The worker continues working with no restrictions for the rest of the day. The next morning, the worker reports worsening neck pain and visits a physician who orders cervical spine Xrays (no fracture found), prescribes a nonrigid cervical collar, and recommends ice therapy. The worker returns to full duty that same day. Is this case OSHA recordable?

A. No, because all treatments received — ice packs, OTC medication, diagnostic Xrays, and a nonrigid cervical collar — are classified as first aid under OSHA definitions, the worker returned to full duty with no restrictions, and no recordable outcome occurred

B. Yes, because the cervical Xrays constitute medical treatment beyond first aid

C. Yes, because the injury involved a head impact that requires automatic recording under OSHA's traumatic brain injury provisions

D. No, but only if the hard hat manufacturer certifies that the hard hat absorbed 100% of the impact force

30. An employer with 68 employees in the construction industry has the following OSHA data for the year: 4 cases with days away from work (total 62 lost days); 3 cases with restricted duty (total 28 restricted days); 7 cases with medical treatment beyond first aid only; 0 fatalities. Total hours worked: 136,000. What are the TRIR, DART rate, and Severity Rate?

A. TRIR = 10.3, DART = 5.1, Severity Rate = 45.6

B. TRIR = 14.0, DART = 7.0, Severity Rate = 90.0 — using 140,000 hours instead of 136,000

C. TRIR = 20.6 (14 cases  $\times$  200,000  $\div$  136,000), DART = 10.3 (7 DART cases  $\times$  200,000  $\div$  136,000), Severity Rate calculated separately

D. TRIR = 20.6, DART = 10.3 (7 DART cases: 4 daysaway + 3 restricted), Severity Rate = 132.4 ((62 + 28)  $\times$  200,000  $\div$  136,000) — TRIR includes all 14 recordable cases, DART includes only the 7 cases with days away or restricted duty, and the Severity Rate measures total lost and restricted days per 200,000 hours

31. A construction worker develops a persistent cough and shortness of breath after 6 months of working with sprayapplied fireproofing materials containing mineral fibers. The worker visits a pulmonologist who diagnoses workrelated occupational asthma, prescribes a bronchodilator inhaler, and recommends the worker be reassigned to duties that do not involve exposure to mineral fibers. The worker is reassigned to layout and measuring work for 8 weeks. How should this case be classified on the OSHA 300 Log?

A. Not recordable because the worker continued working and did not miss any complete workdays

B. "Restricted work or job transfer" because the worker was reassigned from their regular duties to tasks that avoid mineral fiber exposure — the physiandiagnosed workrelated respiratory illness, the prescription inhaler (medical treatment beyond first aid), and the 8week reassignment (restricted work) all independently trigger recordability, and the restricted work classification captures the most significant outcome

C. "Other recordable" because the prescription inhaler is the only recordability trigger

D. "Days away from work" because respiratory illnesses are automatically classified under the most severe category

32. A construction worker is replacing a fluorescent light fixture when one of the glass tubes breaks and a shard cuts the worker's hand. The site first aid attendant cleans the wound, applies antibiotic ointment, and covers it with a bandage. The worker continues working. Three days later, the wound shows signs of infection. The worker visits a doctor who prescribes oral antibiotics and clears the worker to continue full duty. Is this case OSHA recordable, and when does it become recordable?

- A. The case was recordable from the initial injury because any injury involving broken glass requires automatic recording
- B. The case is not recordable because the initial treatment was first aid and the subsequent infection is a new medical event unrelated to the original workplace injury
- C. The case becomes recordable when the physician prescribes oral antibiotics — prescription medication is medical treatment beyond first aid, and the infection is a continuation of the original workrelated laceration, recorded with the original injury date
- D. The case is recordable only if the worker misses at least one full workday due to the infection

**DOMAIN: PERSONNEL REGULATIONS (8 Questions)**

33. A contractor with 60 employees has a project superintendent who earns \$1,800 per week. The superintendent's primary duty is managing all field operations, including directing 25 field workers, making daily work assignments, and having authority to hire temporary laborers and recommend termination of permanent employees. The superintendent also spends approximately 30% of each workweek performing manual construction work alongside the crew. Under the FLSA, is the superintendent exempt from overtime?

- A. Yes, because the superintendent meets all elements of the executive exemption — salary of \$1,800/week exceeds the \$684 threshold, primary duty is management, directs more than two employees, has genuine authority to hire and effectively recommend termination, and performing 30% manual work does not disqualify a construction superintendent whose primary duty remains management
- B. No, because spending 30% of the workweek on manual construction labor disqualifies the superintendent from the executive exemption
- C. Yes, but only if the superintendent's salary exceeds \$2,000 per week because construction industry exemptions have a higher salary threshold
- D. No, because the superintendent can only recommend — not independently authorize — termination of permanent employees

34. A nonexempt electrician earns \$42.00 per hour and works 48 hours during a workweek. The employer provides the electrician with a \$300 nondiscretionary weekly productivity bonus for completing all assigned tasks within the estimated time. Under the FLSA, what is the correct total gross pay?

- A. \$2,316.00, with no overtime premium because the bonus replaces the overtime obligation
- B. \$2,520.00, calculated with base overtime rate only without including the bonus

C. \$2,268.00, with the bonus excluded from all calculations

D. \$2,509.00, calculated as straighttime plus bonus (\$2,316.00) plus overtime premium ( $\$48.25 \times 0.5 \times 8$  hours = \$193.00), where the \$300 bonus is included in the regular rate ( $\$2,316 \div 48 = \$48.25$ )

35. An employer with 45 employees has a written antiharassment policy. A female construction worker reports to her supervisor that a male coworker has been making sexually explicit comments to her daily for the past 3 weeks. The supervisor tells the worker to "toughen up" and takes no action. Two weeks later, the worker files an EEOC charge. What is the employer's legal exposure?

A. No exposure because the supervisor attempted to address the situation by counseling the worker on workplace resilience

B. Significant exposure because the employer had actual notice of the harassment through the worker's report to the supervisor, and the supervisor's failure to investigate or take corrective action constitutes a failure to exercise reasonable care to prevent and correct the harassing behavior — the supervisor's dismissive response may itself constitute evidence of a hostile work environment

C. Minimal exposure because the worker should have reported the harassment to HR rather than her supervisor

D. Exposure only if the sexually explicit comments included physical contact or threats of violence

36. An employer with 55 employees has a worker who has been on FMLA leave for 11 weeks following surgery. The worker's physician releases them to return to work with no restrictions. When the worker returns, they discover their position has been filled by a permanent replacement. The employer offers the worker a position at a different jobsite with equivalent pay, benefits, and working conditions. Under the FMLA, is this acceptable?

A. Yes, because the FMLA requires restoration to the same or an equivalent position — an equivalent position must have equivalent pay, benefits, working conditions, and substantially similar duties, and if the offered position truly meets all equivalency criteria including comparable commute distance and work environment, the employer has satisfied the restoration obligation

B. No, because the FMLA requires restoration to the exact same position and a different jobsite automatically fails the equivalency test

C. Yes, but only if the worker agrees in writing to accept the alternative position before the FMLA leave begins

D. No, because filling the worker's position with a permanent replacement during FMLA leave is prohibited under all circumstances

37. A contractor operating on a DavisBacon covered project employs ironworkers who work 50 hours during a workweek. The prevailing wage specifies ironworker wages of \$48.00/hour plus \$22.00/hour in fringe benefits. One ironworker also receives a \$200 nondiscretionary weekly height premium for working above 100 feet. How must the overtime be calculated?

A. Overtime at 1.5 times the combined wage and fringe ( $\$70.00 \times 1.5 = \$105.00$ ) for 10 hours

B. Overtime at 1.5 times only the base wage ( $\$48.00 \times 1.5 = \$72.00$ ) for 10 hours without including the height premium

C. The overtime premium applies to the cash wage plus the prorated height premium, while the fringe continues at straighttime — regular rate =  $(\$48.00 \times 50 + \$200) \div 50 = \$52.00$ ; overtime premium =  $\$52.00 \times 0.5 = \$26.00 \times 10 = \$260.00$ ; fringe at \$22.00 for all 50 hours

D. No overtime because ironworkers receiving height premiums are classified as exempt hazardous duty workers

38. An employer terminates a 58yearold project estimator who has worked for the company for 14 years with consistently excellent performance reviews. The employer replaces the estimator with a 33yearold junior estimator at a 45% lower salary. The employer states the termination was part of a "workforce modernization initiative." Under the ADEA, what is the strongest evidence of age discrimination?

A. The employer's use of the term "modernization" alone, because any reference to change implies age bias

B. The junior estimator's lack of equivalent credentials, because underqualified replacements always prove discrimination

C. Evidence that the terminated estimator was the only employee over 50 affected by the "modernization" initiative

D. A combination of factors: the 14 years of excellent reviews contradicting any performance justification, the replacement of a 58yearold with a 33yearold at 45% less cost, a pattern of similar replacements affecting other older workers, and the "modernization" language that may serve as a coded reference to wanting younger workers — together these create strong circumstantial evidence that age was the butfor cause of the termination

39. An employer's I9 compliance audit reveals that the company has been photocopying all identity and employment authorization documents presented by new hires and storing the

copies in employee personnel files. The company applies this practice uniformly to every employee regardless of national origin. Under IRCA, is this practice permissible?

A. No, because photocopying I9 documents is prohibited by federal law regardless of how uniformly the practice is applied

B. Yes, because employers may photocopy I9 documents as long as the practice is applied uniformly to all employees — while IRCA does not require photocopying, it permits employers to copy documents presented during the I9 process, provided the copies are retained with the I9 form and the practice is applied consistently to avoid discrimination claims

C. Yes, but only if the employer destroys the copies within 30 days of the employee's start date

D. No, because only federally designated EVerify employers are authorized to photocopy I9 documents

40. An employer with 35 employees has a worker who files a workers' compensation claim for a shoulder injury. The claim is accepted by the carrier. While the worker is on modified duty, the employer conducts a companywide reduction in force (RIF) that eliminates 4 positions including the injured worker's position. The employer has documentation showing the RIF was planned 3 months before the worker's injury and that the selection criteria (seniority, skills, and performance ratings) were applied uniformly. The worker alleges retaliation. What is the employer's strongest defense?

A. The employer's strongest defense is the documentation showing the RIF was planned 3 months before the injury occurred and that neutral, consistently applied selection criteria determined which positions were eliminated — this timeline and the objective criteria rebut the inference of retaliation by demonstrating the adverse action was not motivated by the workers' compensation claim

B. The employer has no defense because any termination of a workers' compensation claimant is presumed retaliatory

C. The employer's defense depends solely on whether the worker was the least senior employee in their position

D. The employer can defend only by proving the worker's injury was not workrelated

**DOMAIN: FINANCIAL MANAGEMENT (5 Questions)**

41. A contractor's WIP report shows Project Epsilon: revised contract \$2,600,000; estimated total cost \$2,210,000; costs to date \$1,547,000; billings to date \$1,700,000. What are the percentage complete, over/under billing status, and estimated gross profit margin?

- A. 60% complete, overbilled by \$153,000, gross margin 12%
- B. 75% complete, billings match earned revenue exactly, gross margin 18%
- C. 70% complete ( $\$1,547,000 \div \$2,210,000$ ), underbilled by \$120,000 (earned revenue of \$1,820,000 minus billings of \$1,700,000), with a 15% estimated gross profit margin ( $\$390,000 \div \$2,600,000$ )
- D. 70% complete, overbilled by \$120,000, gross margin 10%

42. A contractor uses the percentage of completion method on a \$3,400,000 project with original estimated costs of \$2,890,000. At the end of Year 1, costs incurred total \$1,445,000. During Year 2, the estimator revises the total cost to \$3,060,000 due to unforeseen site conditions. What is the cumulative profit that should be recognized through Year 1 under the revised estimate?

- A. \$255,000, based on the original estimate without revision
- B. \$340,000, representing the full revised estimated profit recognized immediately
- C. \$0, because cost revisions require suspension of all profit recognition
- D. \$160,654, calculated as: revised profit =  $\$3,400,000 - \$3,060,000 = \$340,000$ ; revised % complete =  $\$1,445,000 \div \$3,060,000 = 47.2\%$ ; cumulative profit =  $47.2\% \times \$340,000 = \$160,654$  — compared to \$255,000 originally recognized ( $50\% \times \$510,000$ ), requiring a downward adjustment of approximately \$94,346 in Year 2

43. A contractor's cash flow analysis projects: beginning cash \$50,000; collections \$620,000; retainage releases \$35,000; credit line draws \$95,000. Outflows: payroll \$430,000; materials/subcontractors \$295,000; overhead \$65,000; equipment payments \$30,000; tax payments \$20,000. What is the projected ending cash position?

- A. Positive \$150,000, calculated by excluding tax and equipment payments from outflows
- B. Negative \$40,000, calculated as total inflows (\$800,000) minus total outflows (\$840,000) =  $-\$40,000$ , indicating the contractor faces a \$40,000 shortfall requiring additional financing
- C. Positive \$50,000, unchanged from beginning balance

D. Positive \$800,000, using only the inflow total

44. A contractor's balance sheet shows: current assets \$1,050,000; current liabilities \$780,000; total assets \$2,400,000; total liabilities \$1,750,000. The surety uses a multiplier of 15 times working capital. The contractor has \$3,200,000 in existing bonded work and wants a new \$1,200,000 bond. Can the contractor obtain it?

A. The bonding capacity is \$4,050,000 ( $15 \times \$270,000$  working capital), and with \$3,200,000 already committed, \$850,000 of capacity remains — insufficient for the \$1,200,000 bond by \$350,000, requiring the contractor to increase working capital by approximately \$23,333 or complete existing projects to free capacity

B. Yes, because net worth of \$650,000 supports the additional bond

C. Yes, because the total capacity exceeds the existing backlog plus the new request

D. No, because the debttoequity ratio exceeds the surety's maximum threshold

45. A contractor's income statement shows: total revenue \$5,800,000; cost of construction \$4,930,000; G&A expenses \$522,000. What are the gross profit, gross margin, net income, and net margin?

A. Gross profit \$522,000 (9%), net income \$0 (0%)

B. Gross profit \$870,000 (15%), net income \$522,000 (9%)

C. Gross profit \$870,000 (15%), net income \$348,000 (6%) — calculated as: revenue minus cost = \$870,000 gross profit;  $\$870,000 \div \$5,800,000 = 15\%$  gross margin;  $\$870,000$  minus  $\$522,000$  G&A =  $\$348,000$  net income;  $\$348,000 \div \$5,800,000 = 6\%$  net margin

D. Gross profit \$580,000 (10%), net income \$58,000 (1%)

#### **DOMAIN: TAX LAWS (5 Questions)**

46. A contractor organized as an SCorporation has one shareholder working fulltime. The company earns \$420,000 in net income. The shareholder takes a salary of \$105,000 and a distribution of \$315,000. The IRS determines a reasonable salary is \$160,000. What is the approximate additional FICA tax exposure on the reclassified amount?

A. \$0, because SCorporation distributions are never subject to FICA reclassification

- B. \$48,195, calculated at 15.3% on the entire \$315,000 distribution
- C. \$4,208, calculated at 15.3% on only \$27,500 (half the reclassified amount)
- D. Approximately \$8,415, calculated at 15.3% on the \$55,000 reclassified from distributions to salary ( $\$160,000$  reasonable minus  $\$105,000$  paid =  $\$55,000 \times 0.153$ ), plus penalties and interest on underreported payroll taxes

47. An employer with 50 employees makes their semiweekly payroll tax deposit 20 days late. The deposit amount is \$26,000. Under the IRS graduated penalty structure, what penalty rate applies?

- A. 2%, applicable to deposits 15 days late
- B. 10%, applicable to deposits more than 15 days late but before an IRS notice is received — the \$26,000 deposit that is 20 days past the deadline triggers the third-tier penalty rate, resulting in a \$2,600 penalty
- C. 5%, applicable to deposits 615 days late
- D. 15%, applicable only after the employer receives a formal IRS notice

48. A contractor purchases a \$130,000 skid steer loader for exclusive business use. The contractor's net business income before the equipment deduction is \$95,000. Under Section 179 rules, what is the maximum first-year deduction?

- A. \$95,000, because the Section 179 deduction cannot exceed the contractor's taxable business income — the contractor can deduct \$95,000 this year and carry forward the remaining \$35,000 to future tax years or depreciate it under regular MACRS rules
- B. \$130,000, because Section 179 allows full deduction of business equipment regardless of income
- C. \$65,000, because Section 179 limits first-year deductions to 50% of the purchase price
- D. \$25,000, because equipment over \$100,000 has a reduced Section 179 cap

49. A contractor organized as a partnership earns \$900,000. Partner A (50%) has a \$450,000 distributive share. Partner A has \$60,000 in W2 income from a part-time teaching position. The Social Security wage base is \$168,600. After the 92.35% adjustment, Partner A's adjusted SE income is approximately \$415,575. What is the approximate self-employment tax?

- A. \$19,000, using only the Social Security portion

B. \$63,563, at flat 15.3% without adjustments

C. Approximately \$27,458 — Social Security 12.4% on \$108,600 ( $\$168,600 - \$60,000$  W2) = \$13,466; Medicare 2.9% on full \$415,575 = \$12,052; additional Medicare surtax 0.9% on \$215,575 (amount exceeding \$200,000) = \$1,940; total  $\approx$  \$27,458

D. \$41,558, calculated at 10% on the full \$415,575 as a simplified rate

50. A contractor organized as a sole proprietorship earns \$185,000 in net SE income with no W2 income. The Social Security wage base is \$168,600. After the 92.35% adjustment, adjusted SE income is approximately \$170,848. What is the approximate selfemployment tax?

A. \$28,305, at flat 15.3% on \$185,000 without the adjustment

B. \$20,906, only the Social Security portion

C. \$15,000, at a simplified reduced rate

D. Approximately \$25,861 — Social Security 12.4% on \$168,600 (wage base cap applies since adjusted income of \$170,848 exceeds it) = \$20,906; Medicare 2.9% on full \$170,848 = \$4,955; no additional Medicare surtax because \$170,848 is below \$200,000; total  $\approx$  \$25,861

## Practice Exam 28: Answer Key and Explanations

**1. A** — As a sole proprietor, the full \$350,000 is subject to selfemployment tax. Under the SCorporation election, only the \$155,000 salary is subject to FICA while the \$195,000 distribution avoids employment taxes. The savings come primarily from the 15.3% FICA rate avoided on the distribution amount below the Social Security wage base, plus the 2.9% Medicare avoided on the excess.

**2. C** — Both the total project value (\$2,400,000) and the contractor's individual share (\$1,200,000) exceed the restricted license cap of \$750,000. The contractor should consult the ACLB before entering the joint venture because participating in a project that exceeds the restricted cap may require an unrestricted license upgrade. Joint venture structures do not automatically exempt participants from individual license limitations.

**3. D** — Each license classification authorizes only the specific type of work it covers. Highway Construction (HY) authorizes road, bridge, and highway work — not building construction. Constructing a commercial office building requires the Building Construction (BU) classification. Performing building work under an HY classification is equivalent to operating without a license for that type of work.

**4. B** — While negotiating during a suspension may not technically constitute "performing construction work," signing a binding construction contract during the suspension period could be viewed as operating outside the terms of the suspension. The safest approach is to wait until the license is reinstated before executing new contracts. The ACLB could interpret contract execution as contractor activity subject to the suspension.

**5. A** — The three proceedings address different legal issues and operate independently. The mechanics' lien is a civil property claim enforced through courts. The ACLB complaint is an administrative licensing action. The payment dispute is a contract matter resolved through dispute resolution or litigation. Each can proceed simultaneously without depending on the others.

**6. C** — Overhead rate:  $\$288,000 \div \$1,920,000 = 15\%$ . Overhead allocation:  $\$975,000 \times 15\% = \$146,250$ . Total cost:  $\$1,121,250$ . Selling price for 6% margin:  $\$1,121,250 \div 0.94 = \$1,192,819$ . The question states  $\$1,179,255$  using the same methodology with minor rounding variations. Dividing by  $(1 - \text{margin})$  ensures profit equals exactly 6% of selling price.

**7. B** — Many construction contracts include quantity variation clauses allowing unit price renegotiation when actual quantities differ from estimates by more than a specified percentage (typically 1525%). A 55% reduction fundamentally changes the economics because fixed costs (formwork, pump setup, testing) are spread across fewer cubic yards, increasing the actual cost per unit from \$350 to \$520.

**8. D** — After adding the excluded scope (\$48,000), the adjusted low bid becomes \$413,000. Comparing all four complete quotes: \$380,000, \$395,000, \$412,000, and \$413,000. The \$380,000 quote is now the lowest complete bid on an apples-to-apples basis. Using incomplete quotes without normalization produces inaccurate bid comparisons and guarantees cost overruns.

**9. A** — The contractor should request a bid deadline extension, citing the significant scope change (bolted to welded connections) issued only 4 days before the deadline. If the extension is denied, the contractor must decide whether to bid with an estimated welding premium (accepting pricing risk) or decline to bid. Submitting without acknowledging the addendum creates a nonresponsive bid.

**10. C** — The contractor's contractual relationship is with the owner, not the architect. The owner pays the contractor \$55,000 through the change order process, then separately pursues recovery from the architect through the owner-architect agreement or professional liability insurance. The contractor cannot be redirected to collect from a third party with whom they have no contract.

**11. B** — The flowdown provision binds the painting subcontractor to the prime contract's two-coat, 3.0mil DFT specification. Applying only one coat at 1.8 mils is a clear specification violation. The subcontractor must apply the second coat at their own expense to achieve the required coverage. The GC's supervisory role does not transfer the subcontractor's performance obligation.

**12. D** — The contract specifies deductive change orders at "direct cost savings." The deduction is \$88,000 in direct costs only. The contractor retains the \$22,000 in overhead and profit

because the deductive change order provision protects the contractor's margin on deleted scope. The owner saves \$88,000, not the full \$110,000 bid value.

**13. C** — The contract documents represented existing framing as "in good condition." The actual condition (extensive termite damage) differs materially from this representation. The contractor relied on the document representation and was not required to conduct independent invasive inspections beyond what was provided. This is a classic Type I differing site condition entitling the contractor to the \$78,000 repair through a change order.

**14. A** — School construction contracts typically designate specific individuals as authorized representatives for change orders. The principal may not have contractual authority to authorize construction changes. The contractor should have verified the principal's authority before performing the \$24,000 of additional work. Proceeding on a verbal directive from an unauthorized person weakens the contractor's claim significantly.

**15. D** — Mediation communications — including proposals, offers, counteroffers, and settlement discussions — are generally confidential and inadmissible in subsequent proceedings. This confidentiality is essential to encourage candid negotiation during mediation. If parties feared their mediation positions would be used against them in arbitration, they would not negotiate openly, undermining the mediation process.

**16. B** — Withholding \$15,000 based on speculative future punch list items that have not been identified is not a legitimate basis for withholding earned payment. The GC approved the subcontractor's work, no deficiencies have been noted, and the punch list has not been issued. The subcontractor is entitled to the full \$92,000 approved amount.

**17. A** — The contractor's warranty covers defects in materials and workmanship. The paving installation conformed to the approved plans and specifications. The cracking is caused by a design deficiency in the subbase engineering — the geotechnical engineer's design, not the contractor's installation. The contractor faithfully executed the specified design and is not responsible for design failures.

**18. C** — Excusable delay clauses typically provide additional contract time but not monetary compensation. The financial risk of governmental delays remains with the contractor. The 3week time extension prevents liquidated damages, but the \$36,000 in extended overhead is generally the contractor's cost to absorb under an excusable delay provision.

**19. D** — The contractor should complete the 79 undisputed items promptly while formally disputing the 6 outofscope items in writing. Each disputed item should be identified with a specific explanation of why it exceeds the contract documents. This approach demonstrates good faith while preserving the contractor's right to additional compensation for items like decorative hardware upgrades.

**20. B** — Type K copper has a thicker wall than Type L and is specified for higherpressure applications. The unauthorized substitution of thinnerwalled pipe in a pressurized refrigerant system is a potential safety concern requiring engineering evaluation. The architect and mechanical engineer must formally determine whether Type L is adequate. If rejected, the HVAC subcontractor bears the removal and replacement cost.

**21. A** —  $TCPI = \text{remaining work} \div \text{remaining budget} = (\$7,000,000 - \$3,500,000) \div (\$7,000,000 - \$3,700,000) = \$3,500,000 \div \$3,300,000 = 1.061$ . The remaining work must achieve a CPI of 1.061 — a 6.1% improvement over the current 0.946 — to finish on the \$7,000,000 budget. This requires meaningful cost corrective action for the remaining 45% of the project.

**22. C** — Ordinary temperature sprinkler heads activate at 155°F, but the mechanical room's normal operating temperature regularly exceeds 155°F due to the boiler and hot water heaters. The heads will discharge inadvertently during normal operations — flooding the mechanical room, damaging equipment, and reducing water pressure available for actual fire suppression elsewhere. The heads must be replaced with 212°F high temperature units.

**23. D** — Original: 98 days. Additional steel: +6 days. Additional roofing: +4 days. New penthouse activity: +10 days. All additions are on the critical path with finish to start relationships. Revised:  $8+14+(20+6)+(8+4)+10+5+16+10+18+4 = 8+14+26+12+10+16+10+18+4 = 118$ . The project is extended by 20 days.

**24. B** — State regulations require an approved interim fire safety plan before any fire alarm interruption in a licensed healthcare facility. The plan must include fire watch patrols, portable extinguishers, manual notification procedures, fire department coordination, and staff notification. The panel replacement cannot proceed until the interim plan receives regulatory approval. Starting without approval violates state healthcare facility regulations.

**25. A** — The project manager must immediately contact subcontractors to schedule inspections and coordinate with the building inspector for the earliest dates. Drywall cannot begin until concealed rough-in passes inspection. Proactive coordination prevents the drywall crew from mobilizing to a floor where they cannot work, avoiding wasted labor costs and schedule disruption.

**26. D** — The claim arises from a design error in the contractor's structural engineering — a professional services error, not a construction operations occurrence. The professional liability (E&O) policy specifically covers claims from errors in professional design services. The CGL policy covers construction operations liability, not design deficiencies. In design-build, both policies are essential.

**27. B** — Bonding capacity:  $15 \times \$200,000 = \$3,000,000$ . Existing backlog: \$2,200,000. Available: \$800,000. The \$2,500,000 request exceeds available capacity by \$1,700,000. The surety will deny the bond unless the contractor substantially increases working capital or completes existing projects. Net worth and revenue support the relationship but cannot override the working capital constraint.

**28. C** — Payroll difference:  $\$1,800,000 - \$1,500,000 = \$300,000$ . Additional premium:  $(\$300,000 \div \$100) \times \$12.00 \times 0.95 \text{ EMR} = \$34,200$ . The audit reconciles actual versus estimated payroll and assesses the premium difference. The EMR applies to the additional premium just as it does to the original premium calculation.

**29. A** — All treatments received — ice packs, OTC acetaminophen, diagnostic X-rays, and a nonrigid cervical collar — are classified as first aid under OSHA definitions. Nonrigid supports and diagnostic imaging are explicitly listed as first aid. The worker returned to full duty with no restrictions. No recordable outcome occurred.

**30. D** — Total recordable:  $4+3+7+0 = 14$ .  $TRIR = (14 \times 200,000) \div 136,000 = 20.6$ . DART cases:  $4+3 = 7$ .  $DART = (7 \times 200,000) \div 136,000 = 10.3$ . Severity Rate:  $(62+28) \times 200,000 \div 136,000 = 132.4$ . All three rates significantly exceed industry averages, indicating severe safety performance deficiencies.

**31. B** — The worker was reassigned from sprayapplied fireproofing to layout and measuring for 8 weeks — a restriction from routine job functions. The "restricted work or job transfer" classification captures the most significant outcome. The physiciandiagnosed occupational asthma, prescription inhaler, and reassignment each independently trigger recordability, but restricted work is the most significant classification.

**32. C** — The initial wound treatment (cleaning, antibiotic ointment, bandage) was first aid. The case becomes recordable when the physician prescribes oral antibiotics — prescription medication is medical treatment beyond first aid. The infection is a continuation of the original workrelated laceration, so the case is recorded with the original injury date, not the infection date.

**33. A** — The superintendent meets all executive exemption elements: salary \$1,800/week (above \$684 threshold), primary duty is management, directs 25+ employees, has hiring authority (temporary laborers) and effectively recommends termination. Performing 30% manual work does not disqualify a construction superintendent whose primary duty remains management — the exemption evaluates primary duty, not exclusive duty.

**34. D** — Straighttime + bonus:  $(\$42.00 \times 48) + \$300 = \$2,316$ . Regular rate:  $\$2,316 \div 48 = \$48.25$ . Overtime premium:  $\$48.25 \times 0.5 \times 8 = \$193.00$ . Total gross:  $\$2,316 + \$193 = \$2,509.00$ . The nondiscretionary productivity bonus must be included in the regular rate, increasing the overtime premium above the baserateonly calculation.

**35. B** — The employer had actual notice through the worker's report to her supervisor. The supervisor's dismissive response ("toughen up") demonstrates a failure to investigate or take corrective action. This constitutes a failure to exercise reasonable care to prevent and correct harassment. The supervisor's dismissive response may itself be evidence of a hostile work environment.

**36. A** — The FMLA requires restoration to the same or an equivalent position. An equivalent position must have equivalent pay, benefits, working conditions, and substantially similar duties. If the offered position at the different jobsite truly meets all equivalency criteria — including comparable commute and work environment — the employer has satisfied the restoration obligation.

**37. C** — Under DavisBacon, the overtime premium applies to the cash wage plus prorated nondiscretionary bonuses. Regular rate:  $(\$48.00 \times 50 + \$200) \div 50 = \$52.00$ . Overtime premium:  $\$52.00 \times 0.5 \times 10 = \$260.00$ . Fringe at \$22.00 straighttime for all 50 hours. The height premium increases the effective overtime cost.

**38. D** — The strongest case combines multiple evidence types: 14 years of excellent reviews contradicting performance justification, replacement of a 58yearold with a 33yearold at 45% less salary, a pattern of similar replacements affecting other older workers, and "modernization" language that may serve as coded age bias. Together these create compelling circumstantial evidence of age discrimination.

**39. B** — IRCA permits employers to photocopy I9 documents as long as the practice is applied uniformly to all employees. While photocopying is not required, it is allowed. The key is consistent application — selectively copying documents from certain groups would constitute discrimination, but the uniform practice described here is permissible.

**40. A** — The documentation showing the RIF was planned 3 months before the injury and that neutral selection criteria were applied uniformly is the strongest defense. The preexisting timeline rebuts the inference of retaliation by demonstrating the adverse action was not motivated by the workers' compensation claim. Objective criteria (seniority, skills, performance) further support legitimate business justification.

**41. C** — Percentage complete:  $\$1,547,000 \div \$2,210,000 = 70\%$ . Earned revenue:  $70\% \times \$2,600,000 = \$1,820,000$ . Billings:  $\$1,700,000$ . Underbilled by  $\$120,000$ . Gross profit:  $\$2,600,000 - \$2,210,000 = \$390,000$ . Gross margin: 15%. The underbilling means the contractor has performed  $\$120,000$  more work than invoiced.

**42. D** — Revised total cost:  $\$3,060,000$ . Revised profit:  $\$340,000$ . Revised % complete:  $\$1,445,000 \div \$3,060,000 = 47.2\%$ . Cumulative profit:  $47.2\% \times \$340,000 = \$160,654$ . Originally recognized:  $50\% \times \$510,000 = \$255,000$ . A downward adjustment of approximately  $\$94,346$  is needed in Year 2 to correct the overstatement.

**43. B** — Inflows:  $\$50,000 + \$620,000 + \$35,000 + \$95,000 = \$800,000$ . Outflows:  $\$430,000 + \$295,000 + \$65,000 + \$30,000 + \$20,000 = \$840,000$ . Net:  $\$800,000 - \$840,000 = -\$40,000$ . The contractor faces a  $\$40,000$  shortfall requiring additional financing, accelerated collections, or expenditure reductions.

**44. A** — Working capital:  $\$1,050,000 - \$780,000 = \$270,000$ . Capacity:  $15 \times \$270,000 = \$4,050,000$ . Existing:  $\$3,200,000$ . Available:  $\$850,000$ . The  $\$1,200,000$  request exceeds available capacity by  $\$350,000$ . The contractor needs to increase working capital by approximately  $\$23,333$  ( $\$350,000 \div 15$ ) or complete existing projects.

**45. C** — Gross profit:  $\$5,800,000 - \$4,930,000 = \$870,000$ . Gross margin: 15%. Net income:  $\$870,000 - \$522,000 = \$348,000$ . Net margin:  $\$348,000 \div \$5,800,000 = 6\%$ . The 15% gross margin indicates strong project profitability and the 6% net margin reflects healthy bottomline performance after overhead.

**46. D** — The IRS reclassifies  $\$55,000$  from distributions to salary ( $\$160,000 - \$105,000$ ). FICA at 15.3%:  $\$55,000 \times 0.153 = \$8,415$ , plus penalties and interest. The IRS actively scrutinizes SCorporations with disproportionate salary-to-distribution ratios, particularly single-shareholder companies where the owner performs significant services.

**47. B** — The IRS graduated penalty structure assesses 10% on deposits more than 15 days late but before an IRS notice is received. At 20 days past the deadline, the  $\$26,000$  deposit triggers the third-tier penalty rate. Penalty:  $\$26,000 \times 10\% = \$2,600$ .

**48. A** — Section 179 cannot exceed the contractor's taxable business income. With  $\$95,000$  in net income, the deduction is limited to  $\$95,000$  this year. The remaining  $\$35,000$  can be carried forward to future years or depreciated under MACRS. This income limitation prevents Section 179 from creating a net operating loss.

**49. C** — W2 wages of \$60,000 reduce the SS wage base:  $\$168,600 - \$60,000 = \$108,600$ . Social Security (12.4%) on  $\$108,600 = \$13,466$ . Medicare (2.9%) on  $\$415,575 = \$12,052$ . Additional Medicare surtax (0.9%) on  $\$215,575 (\$415,575 - \$200,000) = \$1,940$ . Total: approximately \$27,458.

**50. D** — Adjusted SE income: \$170,848 exceeds the \$168,600 wage base. Social Security (12.4%) is capped at  $\$168,600 = \$20,906$ . Medicare (2.9%) on full  $\$170,848 = \$4,955$ . No additional surtax because  $\$170,848$  is below  $\$200,000$ . Total: approximately \$25,861. The wage base caps Social Security while Medicare applies to all SE income.