PRACTICE EXAM 20 — QUESTIONS 1–50

Format: Calculation-Driven Application Questions — each item presents a numerical scenario, regulatory threshold, or business calculation requiring computation or application of a specific construction principle. Select the option that correctly performs the calculation or states the applicable rule.

1. A contractor's project has incurred $300,000 in actual costs to date against a total estimated cost of $750,000. The contractor uses the cost-to-cost method to measure progress. What is the percent complete?

A. 30% (cost to date ÷ contract price using a fixed denominator method for the calculation)

B. 40% (actual cost to date ÷ total estimated cost at completion = $300,000 ÷ $750,000 = 40 percent under the cost-to-cost percentage of completion method)

C. 60% (the remainder of the estimated cost on a 40-percent-complete calculation for the project)

D. 25% (actual cost to date divided by contract price as the standard POC reporting method)

2. An SC commercial general contractor wants to bid a $2 million project but the current license grade has a $1 million per-project limit. What option allows the contractor to bid the larger project?

A. Apply for a higher license grade by submitting an enhanced financial statement (typically reviewed or audited by an independent CPA) supporting the higher bid limit, or post an SC license bond to raise the bid limit at certain grades

B. Submit a payment bond to the SC LLR Contractor's Licensing Board to override the current bid limit on the license

C. Pay an additional license fee equal to 1 percent of the contract value to exceed the current grade limit

D. The contractor has no option to exceed the current limit and must decline to bid on the larger project

3. A contractor is using a supported scaffold on a commercial project. The scaffold platform is 12 feet above the ground. What OSHA fall protection is required for workers on the scaffold?

A. Hard hats and steel-toed boots are sufficient fall protection at scaffold heights under 15 feet on a project

B. Fall protection is required only above 25 feet on scaffolds under OSHA construction regulations

C. OSHA requires fall protection (typically guardrails or personal fall arrest) for workers on scaffolds more than 10 feet above a lower level under 29 CFR 1926.451; at 12 feet, the requirement applies and protection must be provided

D. Scaffolds under 20 feet are exempt from all OSHA fall protection requirements regardless of platform configuration

4. A contractor's direct costs total $500,000 and the firm applies a 15 percent markup on direct costs. What is the bid price?

A. $425,000 (direct cost less 15 percent for competitive positioning on the project bid)

B. $625,000 (direct cost plus 25 percent for a standard commercial markup calculation on bids)

C. $515,000 (direct cost plus 3 percent for the standard markup on the project work)

D. $575,000 ($500,000 × 1.15 = $575,000; markup is calculated on direct cost, so the bid equals direct cost multiplied by 1 plus the markup percentage)

5. A subcontractor is asked to sign a "conditional waiver and release upon progress payment" before receiving a $50,000 progress payment. What does this document do?

A. A conditional waiver upon progress payment releases lien and bond rights only upon actual receipt of the specified payment; if the payment fails to clear, the waiver is ineffective and the sub's rights are preserved through the payment cycle

B. The conditional waiver unconditionally releases all lien rights immediately upon signing regardless of whether payment is received

C. The conditional waiver applies only to final payment and has no effect during progress billing cycles on the project

D. Conditional waivers transfer all lien rights from the subcontractor directly to the general contractor permanently and unconditionally

6. A contractor purchases a piece of equipment for $80,000 with a 5-year useful life and a $5,000 salvage value. Using straight-line depreciation, what is the annual depreciation expense?

A. $16,000 ($80,000 ÷ 5 years using the full purchase price as the depreciable basis ignoring salvage)

B. $15,000 (($80,000 − $5,000 salvage) ÷ 5 years = $75,000 ÷ 5 = $15,000 annual straight-line depreciation expense recognized each year)

C. $13,000 (($80,000 ÷ 5 years) less the salvage value applied each year on the equipment)

D. $17,000 (purchase price plus 6 percent installation cost divided by useful life in years on the equipment)

7. An owner discovers latent defective work 4 years after substantial completion of a commercial project. The owner wants to sue the contractor. What governs the timing of the suit?

A. Statutes of limitations do not apply to construction defect claims in SC under current law and case authority

B. Owners may sue contractors at any time after discovery of any defect, however long after the substantial completion date

C. Construction defect claims must always be filed within 1 year of substantial completion under SC commercial construction law

D. Statutes of limitations and statutes of repose limit the time within which an owner may sue for construction defects; SC has both a discovery-based limitations period and a statute of repose that caps the absolute time after substantial completion, varying by claim type

8. A contractor's grading project requires 200 hours of bulldozer use. The bulldozer's ownership cost is $40 per hour and the operating cost is $60 per hour. What is the total equipment cost for the project?

A. $12,000 (200 hours × ownership cost only, excluding operating cost as overhead on the project)

B. $8,000 (200 hours × operating cost only, with ownership cost charged separately to overhead)

C. $20,000 (200 hours × $100 combined rate = $20,000; total equipment cost includes both ownership and operating components for full cost recovery on the project)

D. $4,000 (200 hours × $20 averaged rate for combined ownership and operating cost figure)

9. A contractor is excavating a 6-foot deep trench in clay soil for utility installation. Workers will enter the trench. What protective system is required under OSHA?

A. OSHA's excavation standard (29 CFR 1926.652) requires protective systems (sloping, shoring, or shielding) for trenches 5 feet or deeper unless excavated in stable rock; the 6-foot clay trench triggers the requirement and the contractor must select a system based on the soil classification

B. Trenches under 10 feet deep are exempt from OSHA protective system requirements regardless of soil type encountered

C. Protective systems are required only on trenches over 20 feet deep under federal construction safety standards

D. Sloping is the only OSHA-approved protective system for trenches in clay soil under federal excavation rules

10. A contractor has fixed costs of $200,000 per year and a variable contribution margin of 25 percent on each project. What annual revenue is required to break even?

A. $200,000 (revenue must equal the firm's fixed costs to reach break-even on the year)

B. $250,000 (fixed cost × 1.25 = break-even revenue under standard cost accounting methods)

C. $800,000 (break-even revenue = fixed costs ÷ contribution margin ratio = $200,000 ÷ 0.25 = $800,000; each dollar of revenue contributes 25 cents toward covering fixed costs)

D. $500,000 (fixed costs × 2.5 = the break-even revenue threshold for the year as the standard method)

11. An owner and contractor agree on a guaranteed maximum price (GMP) for a commercial renovation. Which statement best describes the GMP contract type?

A. A GMP contract is identical to a lump-sum contract with no flexibility in scope or pricing changes after signing

B. A GMP contract sets a ceiling on the total cost; the contractor is reimbursed for actual costs plus a fee but cannot exceed the GMP without owner approval, with savings below the GMP often shared between owner and contractor

C. A GMP contract is identical to a time and material contract with no cost ceiling for the work performed by the contractor

D. A GMP contract pays the contractor only the guaranteed maximum, regardless of actual costs incurred or scope completed on the project

12. A subcontractor performed $80,000 of work, received $50,000 in progress payments, and is owed the balance. The subcontractor files a mechanic's lien. What amount may the subcontractor properly claim in the lien?

A. $80,000 (the full contract value regardless of payments received to date on the project work)

B. $50,000 (the amount already paid as evidence of work performed and value delivered)

C. $130,000 (contract value plus the unpaid balance for emphasis on the recorded lien claim)

D. $30,000 ($80,000 work performed minus $50,000 received = $30,000 balance owed; mechanic's liens may be claimed only for the unpaid balance of labor and materials furnished to improve the property)

13. A contractor's current assets total $750,000 and current liabilities total $450,000. What is the firm's working capital?

A. $300,000 (working capital = current assets − current liabilities = $750,000 − $450,000 = $300,000; this represents the firm's net short-term liquidity available to fund operations and absorb cash flow strain)

B. $1,200,000 (working capital = current assets + current liabilities under standard accounting methods)

C. $1.67 (working capital is calculated as a ratio of current assets to current liabilities for the firm)

D. $750,000 (working capital equals total current assets only under cash basis accounting methods)

14. A losing bidder on a public construction project believes the awarded contractor's bid was non-responsive due to a missing required certification. What is the typical procedural path?

A. Public procurement codes typically allow a losing bidder to file a bid protest within a short statutory window (often 7-10 days from notice of award), citing specific irregularities in the awarded bid; the procuring agency reviews the protest and may sustain or deny it, with judicial review available

B. Losing bidders have no standing to challenge a bid award under SC procurement law and must accept the result

C. The losing bidder must file a federal lawsuit before any administrative bid protest can be considered for review

D. Bid protests are heard only by the U.S. Department of Labor regardless of the project funding source or jurisdiction

15. A construction worker earns $25 per hour base wage. The labor burden adds 50 percent for taxes, benefits, and workers comp. What is the fully-burdened labor cost per hour?

A. $25.00 (the base wage equals the fully-burdened cost in standard estimating practice for the project)

B. $50.00 (base wage doubled to capture all labor burden components in the labor cost calculation)

C. $37.50 ($25 × 1.50 = $37.50; fully-burdened labor cost equals base wage multiplied by 1 plus the burden percentage to capture FICA, workers comp, unemployment, benefits, and indirect costs)

D. $30.00 (base wage plus 20 percent for typical labor burden on commercial construction projects)

16. A contractor's worker is using a portable extension ladder to access a roof. The roof eaves are 14 feet above the ground. How far above the upper landing surface should the ladder side rails extend?

A. 1 foot above the upper landing surface is the minimum extension for ladder access to a roof under OSHA

B. OSHA's portable ladder rules under 29 CFR 1926.1053 require the ladder side rails to extend at least 3 feet above the upper landing surface where used to access an upper level, to provide secure handhold during transition on and off the ladder

C. 6 feet above the landing surface is the OSHA requirement for portable ladders accessing roof eaves on construction

D. The ladder must be exactly even with the eave line under OSHA standards to allow proper roof access during work

17. A contractor's surety has approved a single-project limit of $5 million and an aggregate program limit of $20 million. The contractor currently has $14 million in bonded backlog. What is the remaining aggregate bonding capacity?

A. $5,000,000 (the single project limit equals the remaining aggregate capacity under standard surety underwriting)

B. $14,000,000 (current backlog represents available remaining bonding capacity in the program for the contractor)

C. $20,000,000 (the full aggregate limit remains available to the contractor for additional bonded work without reduction)

D. $6,000,000 ($20 million aggregate limit − $14 million current backlog = $6 million remaining aggregate capacity for additional bonded work, subject to the $5 million single-project cap on any one new bond)

18. A public agency issues a Request for Proposals (RFP) for a complex construction management project. How does an RFP differ from an Invitation for Bids (IFB)?

A. RFPs and IFBs are identical procurement vehicles with no procedural or evaluative differences in practice

B. RFPs allow the agency to evaluate proposals on multiple criteria (qualifications, approach, experience, price) and award based on best value, while IFBs are sealed-bid procurements awarded to the lowest responsive and responsible bidder on price alone

C. RFPs are used only for federal procurement and IFBs are used only for state-level work under procurement rules

D. RFPs require lump-sum pricing only while IFBs allow time-and-material pricing on the project work performed

19. A project has earned value (EV) of $600,000 and planned value (PV) of $700,000 at the measurement date. What is the schedule variance (SV)?

A. $100,000 favorable (the project is ahead of schedule by $100,000 in earned value at the measurement date)

B. $1,300,000 (combined planned and earned value as the schedule variance measure for the project to date)

C. −$100,000 (SV = EV − PV = $600,000 − $700,000 = −$100,000; a negative SV indicates the project is behind schedule because the work actually completed is worth $100,000 less than the work planned for this point)

D. $0 (planned and earned values cancel each other under standard EVM reporting methods for the project)

20. A general contractor is preparing a written subcontract with a plumbing sub on a commercial project. What provisions should typically be included in the subcontract?

A. A properly drafted subcontract typically includes scope of work, contract price and payment terms, schedule and time provisions, insurance and indemnity requirements, change order procedures, dispute resolution mechanisms, flow-down of relevant prime contract terms, and termination rights

B. Subcontracts require only a price and a description of work; all other terms are implied by SC commercial code provisions

C. Subcontracts must be limited to a single page to be enforceable under SC commercial construction practice and case law

D. Subcontracts must be entirely oral to preserve the GC's rights under SC contractor licensing law and procedures

21. A change order adds $20,000 in direct labor and $30,000 in direct material. The contract allows a 10 percent overhead markup and a 10 percent profit markup, each calculated on direct cost. What is the total change order price?

A. $55,000 ($50,000 direct cost plus 10 percent total markup for overhead and profit components combined as one)

B. $60,500 ($50,000 plus 21 percent compound markup applying overhead first then profit on the calculation method)

C. $50,000 (direct cost only, since change order markup is excluded under SC commercial construction practice)

D. $60,000 ($50,000 direct cost + $5,000 overhead (10 percent × $50,000) + $5,000 profit (10 percent × $50,000) = $60,000; both markups calculated on direct cost and added separately to the direct cost base)

22. A fire on a commercial project damages both the partially completed work and a neighboring building. Which insurance policies typically respond to these losses?

A. CGL responds to both damages because all property losses on construction sites fall within CGL scope of coverage

B. Builder's risk responds to both damages because builder's risk covers all construction-related fire losses regardless of which property is affected

C. Both policies are excluded from fire damage in commercial construction operations under standard endorsements and forms

D. Builder's risk typically responds to damage to the project under construction (first-party property coverage), while CGL typically responds to damage to the neighboring third-party building (third-party liability coverage); the two policies cover different categories of loss

23. A contractor purchases a backhoe for $90,000. The expected useful life is 4,500 hours over 5 years. Annual operating costs (fuel, maintenance, insurance) total $18,000 per year. What is the approximate hourly cost of operation, assuming 900 hours of use per year?

A. $20 per hour (purchase price ÷ useful life hours = $90,000 ÷ 4,500 = $20 per hour for total cost of operation)

B. $40 per hour ($90,000 ÷ 4,500 = $20 ownership per hour + $18,000 ÷ 900 = $20 operating per hour, summing to $40 per hour total cost of operation for the backhoe)

C. $25 per hour (combined hourly cost including only the ownership portion of the equipment investment)

D. $108 per hour (($90,000 + $18,000) ÷ 900 hours per year as the total annual cost per operating hour figure)

24. An SC contractor purchases $25,000 of materials from an out-of-state supplier who does not collect SC sales tax. What is the contractor's typical use tax obligation?

A. The contractor must self-remit SC use tax on the $25,000 purchase at the applicable state rate (6 percent state plus any applicable local option taxes), filing through MyDORWAY; the tax equals what would have been paid had the materials been purchased from an SC supplier collecting tax at point of sale

B. The contractor is exempt from use tax because materials installed into real property are not subject to SC tax under any condition

C. The contractor pays use tax only on the labor portion of the project, not on materials purchased from out of state

D. The supplier in the other state is responsible for remitting SC use tax to MyDORWAY on behalf of the SC contractor

25. A worker needs to enter an underground utility vault for repair work. The vault is poorly ventilated and has limited entry/egress. What OSHA program applies?

A. OSHA's Hazard Communication program controls underground vault entry under federal construction regulations and rules

B. OSHA's Lockout/Tagout program governs all confined space entries on construction projects under federal rules and standards

C. OSHA's Confined Space in Construction standard (29 CFR 1926.1200 series) requires evaluation of the space, identification of permit-required vs non-permit spaces, atmospheric testing, written entry procedures, attendants, retrieval equipment, and entry permits where applicable

D. OSHA's Personal Protective Equipment standard alone governs all confined space entries on commercial projects without further requirements

26. A contractor's project has revenue of $1,000,000 and cost of revenue of $850,000. What is the gross profit margin?

A. $850,000 (cost of revenue as the gross profit measure on the project under standard accounting practice)

B. 15% ((Revenue − Cost of Revenue) ÷ Revenue = ($1,000,000 − $850,000) ÷ $1,000,000 = $150,000 ÷ $1,000,000 = 15 percent gross profit margin)

C. 85% (cost of revenue ÷ revenue as the standard gross profit margin in commercial construction accounting)

D. $150,000 (gross profit as a dollar amount, not the gross profit margin percentage requested in the question)

27. A self-employed contractor operating as a sole proprietor expects to owe more than $1,000 in federal taxes for the year. What is the typical filing obligation?

A. Self-employed individuals expecting to owe $1,000 or more in federal taxes for the year are generally required to make quarterly estimated tax payments using Form 1040-ES; underpayment of estimated tax may trigger penalties under IRS rules and regulations

B. Self-employed contractors file annual returns only and never make quarterly estimated payments under federal tax rules

C. Self-employed individuals must use Form W-2 to report estimated taxes throughout the year on a quarterly basis

D. Estimated tax payments are voluntary for all sole proprietors regardless of expected tax liability for the year

28. A contractor's contract is $1,500,000 and the project is 60 percent complete by the cost-to-cost method. What is the revenue earned to date under percentage-of-completion accounting?

A. $1,500,000 (full contract value recognized at the 60 percent complete measurement date under POC method)

B. $600,000 (project progress in dollar units of completion as the standard POC reporting method on the project)

C. $900 (project percent complete expressed in standard accounting reporting units for the period closed)

D. $900,000 (Revenue earned = Contract value × Percent complete = $1,500,000 × 60 percent = $900,000 under the percentage-of-completion method of revenue recognition)

29. A contractor performs a renovation on a residential property built in 1955 that disturbs more than 6 square feet of painted surface per room. What EPA rule applies to the work?

A. The EPA's Asbestos NESHAP rule applies to lead-paint renovations on pre-1978 housing under federal regulations

B. The EPA's Clean Water Act NPDES rule applies to all lead renovation work on residential properties under federal law

C. EPA's Lead Renovation, Repair, and Painting (RRP) Rule applies to renovations disturbing painted surfaces in pre-1978 housing and child-occupied facilities above specified thresholds; firms and renovators must be certified, follow lead-safe work practices, and document compliance

D. EPA's Resource Conservation and Recovery Act (RCRA) governs all lead-paint work on residential properties under federal hazardous waste rules

30. Activity Z has an early start of day 30, late start of day 45, early finish of day 50, and late finish of day 65. What is the total float on the activity?

A. 5 days (late finish minus early start divided by the activity duration for the period in the schedule)

B. 30 days (early finish minus early start as the total float on the activity in the project schedule)

C. 15 days (Total Float = Late Start − Early Start = 45 − 30 = 15 days, or equivalently Late Finish − Early Finish = 65 − 50 = 15 days; the activity can be delayed up to 15 days without delaying project completion)

D. 65 days (late finish value as the total float on the activity in the project schedule diagram)

31. A contractor is renovating an existing commercial building used by the public. The renovation affects the primary function areas of the building. What ADA requirement typically applies?

A. ADA accessibility requirements apply only to new construction and never to renovations of existing facilities under federal law

B. The ADA (specifically Title III for public accommodations) generally requires alterations to be made readily accessible; when the alteration affects a primary function area, an accessible path of travel to that area (plus serving restrooms, telephones, and drinking fountains) is also required, subject to a disproportionate-cost limitation

C. ADA requirements apply only to federal government buildings and exclude all private commercial renovations under Title III provisions

D. ADA accessibility standards exempt all renovation work regardless of cost or scope under federal accessibility law and regulations

32. A contractor's balance sheet shows total assets of $2,000,000 and total liabilities of $1,200,000. What is the contractor's net worth (equity)?

A. $800,000 (Net Worth = Total Assets − Total Liabilities = $2,000,000 − $1,200,000 = $800,000; this represents the residual ownership interest in the firm and is a key figure for surety bonding and bank lending decisions)

B. $3,200,000 (total assets plus total liabilities as the firm's net worth calculation method under accounting standards)

C. $1.67 (assets-to-liabilities ratio as the net worth measure for the firm under standard accounting practice and rules)

D. $2,000,000 (total assets only as the firm's net worth without adjustment for liabilities outstanding to creditors)

33. A contractor's builder's risk policy excludes flood damage. The project site is in a designated flood zone. What is the contractor's typical option to address this exposure?

A. The contractor must accept the exclusion and bear the full flood risk on the project without recourse to other coverage

B. Flood damage is automatically covered by the contractor's CGL policy without need for any additional endorsement on the policy

C. The contractor must purchase a separate workers compensation policy to cover flood losses on the project under the policy

D. The contractor can typically purchase a flood endorsement (or separate flood insurance policy) to add coverage for flood damage to the project under construction; cost depends on flood zone designation, project value, and underwriting

34. A contractor's $5,000,000 contract is 35 percent complete as measured by costs incurred to date. The contractor recognized $1,400,000 in revenue last quarter. What additional revenue should be recognized this quarter under percentage-of-completion accounting?

A. $1,750,000 (current quarter percentage applied to contract value with no prior period adjustment to revenue)

B. $350,000 (Total revenue earned = $5,000,000 × 35 percent = $1,750,000; less $1,400,000 already recognized = $350,000 additional revenue to recognize this quarter under POC accounting method)

C. $1,400,000 (last quarter revenue repeated this quarter as the recognition method on the project work)

D. $5,000,000 (total contract value recognized in full at the 35 percent complete measurement point under POC)

35. A contractor is operating a 50-ton mobile crane on a commercial construction project. What OSHA requirement typically applies to the crane operator?

A. OSHA's crane standard at 29 CFR 1926.1427 requires certification of crane operators (typically through an accredited organization such as NCCCO) for cranes with a maximum rated capacity over 2,000 pounds; the operator must hold a valid certification or other qualifying credential to operate the crane

B. Crane operators do not require any OSHA certification regardless of capacity or project type under federal construction regulations

C. OSHA crane operator certification applies only to tower cranes and excludes mobile cranes from federal requirements

D. Only cranes with capacity above 200 tons trigger any OSHA certification requirement for operators on construction sites

36. A contractor uses a cost-loaded CPM schedule to manage a project. What does cost-loading the schedule accomplish?

A. Cost-loading replaces all CPM duration data with dollar figures and eliminates time as a scheduling variable on the project

B. Cost-loading reduces the project's total cost by allocating savings across all activities in the schedule diagram

C. Cost-loading assigns a dollar value to each schedule activity based on its scope and resource requirements, enabling the schedule to drive earned value calculations, progress payments, cash flow forecasts, and integrated time-cost analysis throughout the project

D. Cost-loading converts all CPM activities to lump-sum allowances that are independent of activity progress measurements

37. An owner exercises a "termination for convenience" clause in the construction contract midway through a project. The contractor was not in default. What is the contractor typically entitled to recover?

A. Only the bid price for work physically completed, with no overhead or other recovery permitted under the clause and contract

B. The contractor is barred from recovering anything when the owner terminates for convenience under standard contracts

C. The full contract price including all future profit that would have been earned if performance had continued through completion

D. Termination for convenience typically entitles the contractor to recover the cost of work performed to date, reasonable demobilization expenses, settlement costs, and a reasonable profit on the work performed; the contractor generally cannot recover anticipated profit on unperformed work, subject to specific contract language

38. A construction worker's base hourly wage is $30. Labor burden adds 18 percent payroll taxes, 12 percent workers comp, 8 percent benefits, and 7 percent other indirect costs. What is the fully-burdened hourly cost?

A. $43.50 (Burden total = 18 + 12 + 8 + 7 = 45 percent; fully-burdened cost = $30 × 1.45 = $43.50 per hour; this is the labor cost the contractor should use in estimates and bid calculations)

B. $50.00 (base wage plus a flat 67 percent burden as the standard labor burden in commercial construction estimating)

C. $33.00 (base wage plus 10 percent labor burden as the standard burden in commercial construction work and bids)

D. $37.50 (base wage plus 25 percent burden as the standard estimating approach in commercial construction bidding)

39. A construction firm tracks job costs by category for each active project. Which categories are typically tracked under standard construction job cost accounting?

A. Job costs are tracked only by total revenue without breakdown into specific cost categories under SC accounting rules

B. Standard construction job cost accounting tracks costs by category including direct labor, direct materials, equipment, subcontracts, and other direct costs, plus allocated indirect costs (overhead); the system enables project-level profitability analysis and supports estimating refinement

C. Job costs are tracked only by direct labor hours regardless of materials, equipment, or subcontract expenses for accuracy purposes

D. Construction job cost accounting categorizes all costs as either fixed or variable without further breakdown into work categories or items

40. A contractor's annual revenue is $4,000,000 and total variable costs are $3,000,000. What is the variable cost ratio?

A. $1,000,000 (the gross profit on the variable cost analysis of the firm's annual operations across all projects)

B. 25% (variable cost as a percentage of the firm's gross profit margin on the project work performed during the year)

C. 75% (Variable Cost Ratio = Variable Costs ÷ Revenue = $3,000,000 ÷ $4,000,000 = 75 percent; this means 75 cents of every revenue dollar covers variable cost, with the remaining 25 cents covering fixed costs and profit)

D. 133% (revenue divided by variable cost as the variable cost ratio under standard cost accounting practice in construction)

41. A contractor's workers will be exposed to silica dust above the permissible exposure limit during concrete cutting. What OSHA requirements apply?

A. OSHA's respirable crystalline silica standard for construction (29 CFR 1926.1153) sets a PEL of 50 µg/m³ as an 8-hour TWA and requires implementation of either Table 1 specified exposure control methods or an exposure assessment with engineering controls, work practices, respiratory protection, training, and medical surveillance where indicated

B. OSHA exempts concrete cutting from any silica exposure regulations regardless of dust generation level on the job site

C. Respiratory protection is voluntary for silica exposure under all OSHA construction standards in commercial work and projects

D. Silica exposure regulations apply only in manufacturing facilities and exclude construction operations entirely under federal rules

42. A surety underwrites bonding capacity based on a contractor's working capital × 10 and net worth × 20, using the more restrictive of the two. A contractor has working capital of $500,000 and net worth of $750,000. What is the indicated aggregate bonding capacity?

A. $10,000,000 (working capital × 20 as the standard aggregate capacity calculation under surety underwriting practice)

B. $15,000,000 (net worth × 20 = $15,000,000 as the aggregate capacity ceiling for bonding under standard practice)

C. $7,500,000 (combined working capital plus net worth as the aggregate capacity calculation under surety underwriting)

D. $5,000,000 (Working capital × 10 = $500,000 × 10 = $5,000,000; Net worth × 20 = $750,000 × 20 = $15,000,000; sureties use the more restrictive of the two indicators, capping aggregate capacity at $5,000,000 in this case)

43. A developer obtains short-term financing for a commercial construction project and arranges separate long-term financing to take effect at project completion. What is the typical structure?

A. The single construction loan covers both construction and permanent financing without any transition or refinancing event

B. Construction financing (short-term, interest-only, with periodic draws) funds the build; permanent financing (long-term mortgage) replaces the construction loan at completion through a "take-out" loan, transitioning the project from build to operational financing

C. Construction loans are repaid through the developer's personal accounts without any permanent financing arrangement in place

D. Permanent financing is obtained only after the construction loan defaults and triggers refinancing as a workout solution to the loan

44. A contractor's tax accountant uses the Modified Accelerated Cost Recovery System (MACRS) for tax depreciation of equipment. What does MACRS provide compared to straight-line depreciation?

A. MACRS produces a lower total depreciation expense over the equipment's life than straight-line methods under federal tax law

B. MACRS extends the equipment's depreciation period to twice the useful life of straight-line methods under federal regulations

C. MACRS accelerates depreciation by allocating larger deduction amounts in the early years of the equipment's life and smaller amounts in later years; total depreciation over the life equals the depreciable basis, but the timing produces tax benefit through faster recovery of the deduction

D. MACRS is required only for real estate depreciation and excludes construction equipment from accelerated treatment under federal tax rules

45. A contractor encounters subsurface conditions during excavation that differ materially from those indicated in the geotechnical report furnished by the owner. The contractor submits a Type I DSC claim. How does Type I differ from Type II DSC?

A. Type I and Type II DSCs are identical in legal effect and contractor recovery under standard contract provisions and case law

B. Type I DSCs apply only to public projects and Type II DSCs apply only to private commercial projects under contract law and case authority

C. Type II DSCs are not recognized in SC and only Type I claims are recoverable on commercial construction work under case law

D. Type I DSCs involve conditions materially different from those indicated in the contract documents (relying on the owner's representations); Type II DSCs involve unknown and unusual physical conditions of an unusual nature, differing materially from conditions ordinarily encountered (no reliance on documents required); both may support recovery under a DSC clause

46. A contractor's project has a contract value of $800,000, direct costs of $560,000, allocated overhead of $80,000, and bond/insurance of $16,000. What is the project profit?

A. $80,000 (overhead figure used as the profit measure on the project under POC accounting standards)

B. $144,000 (Project profit = Contract Value − All Costs = $800,000 − $560,000 − $80,000 − $16,000 = $144,000; this represents the contractor's net profit on the project after all direct and allocated indirect costs are deducted)

C. $240,000 (contract value less direct costs only, ignoring overhead and bond costs in the calculation method)

D. $560,000 (direct costs as the profit measure on the project under standard accounting practice and reporting)

47. A contractor's workers compensation premium varies significantly based on the type of work performed by employees. What system drives this variation?

A. Workers compensation premiums are based on classification codes (typically NCCI codes) that group occupations by hazard level; each code has a specific rate per $100 of payroll, and contractor payroll is divided among applicable codes so that high-hazard work attracts higher premium and lower-hazard work attracts lower premium

B. Workers compensation premiums are a flat dollar amount per employee regardless of occupation or hazard level on the project

C. Workers compensation rates are uniform across all construction trades under federal workers compensation rules and federal law

D. Workers compensation premiums depend solely on contractor revenue without regard to payroll or work classification on jobs

48. A contractor's bid worksheet shows direct costs of $400,000. The firm targets a 12 percent overhead and 8 percent profit, each calculated on direct cost. What is the bid price?

A. $440,000 (direct cost plus 10 percent combined markup for overhead and profit at standard commercial practice)

B. $480,000 (direct cost plus 20 percent flat markup combining overhead and profit on the bid price calculation)

C. $480,000 ($400,000 direct cost + $48,000 overhead (12 percent × $400,000) + $32,000 profit (8 percent × $400,000) = $480,000 bid price; both markups computed on direct cost and summed with direct cost to produce the final bid)

D. $560,000 (direct cost plus 40 percent flat markup as the standard commercial bid practice for the firm on bids)

49. A contractor's payroll department prepares year-end federal tax forms for employees and the IRS. What is the difference between Form W-2 and Form W-3?

A. Form W-2 is for nonemployees and Form W-3 is for employees on the year-end payroll reporting cycle for the year

B. Forms W-2 and W-3 are interchangeable terms for the same document used in federal payroll reporting at year-end

C. Form W-3 replaced Form W-2 for all employee wage reporting purposes in commercial construction reporting practice

D. Form W-2 (Wage and Tax Statement) is issued to each individual employee and to the IRS reporting wages and federal tax withholdings; Form W-3 (Transmittal of Wage and Tax Statements) is the summary cover sheet aggregating all W-2 totals when filing the employer's annual wage report with the SSA

50. A contractor's Schedule of Values shows a line item for "Concrete Foundations" valued at $120,000. The contractor reports the line item as 75 percent complete on the current pay application, with no prior billing on this line. What dollar amount should the pay application bill for that line item this period (before retainage)?

A. $120,000 (full line item value billed regardless of percent complete reported in the application this period)

B. $90,000 ($120,000 × 75 percent = $90,000 billed for this line item on the current pay application; the periodic pay application bills each line item at its current percent complete, less any prior period billings on that line)

C. $30,000 (the unbilled remainder of the line item ($120,000 × 25 percent) as the billable amount in the period reported)

D. $45,000 (the line item value divided into thirds as the billing method on a 75 percent complete report cycle)

PRACTICE EXAM 20: ANSWER KEY AND EXPLANATIONS

1. B — Percent complete under the cost-to-cost method equals actual cost incurred to date divided by total estimated cost at completion: $300,000 ÷ $750,000 = 40 percent. This figure drives revenue recognition under percentage-of-completion accounting, billing on cost-loaded schedules, and progress reporting to lenders and sureties.
2. A — SC commercial general contractor licensing tiers bid limits by grade, with higher grades requiring stronger financial statements (reviewed or audited by an independent CPA). At certain grades, the contractor may also post an SC license bond as an alternative pathway to raise the bid limit when the financial statement alone would not support the higher tier.
3. C — OSHA's scaffold standard at 29 CFR 1926.451 requires fall protection for workers on scaffolds more than 10 feet above a lower level. Acceptable methods include guardrail systems and personal fall arrest, with the choice driven by scaffold type. The 12-foot platform exceeds the 10-foot trigger, mandating protection.
4. D — Bid price under a markup-on-cost approach equals direct cost multiplied by 1 plus the markup percentage: $500,000 × 1.15 = $575,000. This adds $75,000 of markup to the $500,000 of direct cost, which becomes the contractor's bid figure for the project.
5. A — A conditional waiver and release upon progress payment releases lien and bond rights only upon the lienor's actual receipt of the specified payment. If the payment check fails to clear or never arrives, the waiver is ineffective and the sub's rights remain intact, preserving leverage through the payment cycle.
6. B — Straight-line depreciation equals (Cost − Salvage Value) ÷ Useful Life = ($80,000 − $5,000) ÷ 5 = $15,000 per year. The salvage value is subtracted before dividing because the equipment retains that residual value at the end of its useful life and is not depreciated below it.

7. D — Construction defect claims are bounded by both statutes of limitations (which run from discovery or accrual of the cause of action) and statutes of repose (which cap the absolute time after substantial completion regardless of discovery). SC has both, and the specific periods vary by claim type, making timely consultation with counsel essential when latent defects emerge.
8. C — Total equipment cost equals hours of use multiplied by combined ownership and operating cost per hour: 200 × ($40 + $60) = 200 × $100 = $20,000. Full cost recovery requires capturing both the ownership component (depreciation, interest, taxes, insurance) and operating component (fuel, repairs, consumables) in equipment rate calculations.
9. A — OSHA's excavation standard at 29 CFR 1926.652 requires a protective system (sloping, shoring, or shielding) for trenches 5 feet or deeper unless excavated entirely in stable rock. The 6-foot clay trench exceeds the trigger, and the contractor must select a protective system appropriate to the soil classification (clay typically classifies as Type B or Type C depending on conditions).
10. C — Break-even revenue equals fixed costs divided by the contribution margin ratio: $200,000 ÷ 0.25 = $800,000. At this revenue level, the 25-cent contribution from each revenue dollar exactly covers the $200,000 of fixed costs, leaving zero profit and zero loss.
11. B — A Guaranteed Maximum Price contract sets a ceiling on the total contract cost, with the contractor reimbursed for actual costs plus a fee but unable to exceed the GMP without owner approval. Many GMP contracts include shared-savings provisions that distribute the difference between actual cost and the GMP between owner and contractor, incentivizing cost discipline.
12. D — Mechanic's liens may be claimed only for the unpaid balance of labor and materials actually furnished to improve the property: $80,000 work − $50,000 received = $30,000 owed. Inflating a lien beyond the unpaid balance can void the lien for overstatement under many jurisdictions' rules and expose the lienor to slander-of-title claims.
13. A — Working capital equals current assets minus current liabilities: $750,000 − $450,000 = $300,000. This figure represents the firm's net short-term liquidity to fund payroll, materials, and operating expenses while waiting for project receivables; sureties weight it heavily in calculating bonding capacity.
14. A — Public procurement codes generally permit losing bidders to file bid protests within a short statutory window (commonly 7 to 10 days from notice of award), identifying specific irregularities such as missing certifications or non-responsiveness. The procuring agency reviews and rules on the protest, with judicial review available if the protest is denied.
15. C — Fully-burdened labor cost equals base wage multiplied by 1 plus the burden percentage: $25 × 1.50 = $37.50 per hour. The 50 percent burden captures employer-paid FICA, workers comp, unemployment, benefits, and indirect labor costs that must be recovered through the bid for the contractor to break even on labor.
16. B — OSHA's portable ladder rules at 29 CFR 1926.1053 require side rails to extend at least 3 feet above the upper landing surface when the ladder is used to access an upper level. The extension provides a secure handhold during the high-risk transition on and off the ladder, where most ladder falls occur.
17. D — Remaining aggregate bonding capacity equals the program's aggregate limit minus current bonded backlog: $20 million − $14 million = $6 million. New bonds must also fit within the single-project limit of $5 million, so the contractor can take on additional bonded work up to that combined constraint.
18. B — Request for Proposals procurements allow the agency to evaluate multiple criteria including qualifications, technical approach, experience, and price, awarding on a best-value basis. Invitation

for Bids procurements are sealed-bid solicitations awarded strictly to the lowest responsive and responsible bidder on price, providing less flexibility but greater procedural simplicity.

19. C — Schedule Variance equals Earned Value minus Planned Value: $600,000 − $700,000 = −$100,000. A negative SV indicates the project is behind schedule because the work actually completed is worth $100,000 less than the work that was planned for completion at this point.
20. A — A properly drafted subcontract addresses scope of work, contract price and payment terms, schedule and time requirements, insurance and indemnity provisions, change order procedures, dispute resolution mechanisms, flow-down of relevant prime contract terms, and termination rights. Omitting any of these elements creates risk that ambiguities will be resolved against the GC in later disputes.
21. D — Total change order price equals direct cost plus markups computed separately on direct cost: $50,000 + (10% × $50,000) + (10% × $50,000) = $50,000 + $5,000 + $5,000 = $60,000. Markups applied separately to direct cost produce a cleaner calculation than compounding, which matters when contract language specifies the calculation method.
22. D — Builder's risk is first-party property coverage protecting the project under construction from physical damage by named perils such as fire. CGL is third-party liability coverage protecting against bodily injury and property damage to others. The fire damage to the contractor's own project triggers builder's risk, while damage to the neighboring third-party building triggers CGL.
23. B — Hourly equipment cost equals ownership cost per hour plus operating cost per hour: $90,000 ÷ 4,500 hours = $20 ownership per hour, and $18,000 ÷ 900 hours = $20 operating per hour, totaling $40 per hour. This combined rate is the figure the contractor should use when including equipment in estimates and pricing.
24. A — South Carolina treats contractors as end consumers of materials installed into real property, and use tax applies to out-of-state purchases where SC sales tax was not collected at point of sale. The contractor must self-remit the tax through MyDORWAY at the applicable state rate (6 percent) plus any local option taxes for the jurisdiction.
25. C — OSHA's Confined Space in Construction standard at 29 CFR 1926.1200 series controls entry into spaces with limited entry/egress and potentially hazardous atmospheres. The standard requires space evaluation, identification of permit-required vs non-permit spaces, atmospheric testing, written entry procedures, attendants, retrieval equipment, and entry permits where conditions warrant.
26. B — Gross profit margin equals (Revenue − Cost of Revenue) divided by Revenue: ($1,000,000 − $850,000) ÷ $1,000,000 = $150,000 ÷ $1,000,000 = 15 percent. Construction firms typically target gross margins of 10 to 20 percent depending on market segment and risk profile, with 15 percent fitting comfortably in that range.
27. A — Self-employed individuals expecting to owe $1,000 or more in federal taxes for the year generally must make quarterly estimated tax payments using Form 1040-ES on April 15, June 15, September 15, and January 15. Underpayment triggers penalties calculated as interest on the underpaid amount, regardless of whether the final return is paid in full.
28. D — Revenue earned under percentage-of-completion accounting equals contract value multiplied by percent complete: $1,500,000 × 60% = $900,000. This is the cumulative revenue recognized to date on the project, with the unbilled portion adjusted through underbillings or overbillings on the WIP schedule depending on actual billing.
29. C — EPA's Lead Renovation, Repair, and Painting (RRP) Rule applies to renovations of housing built before 1978 and child-occupied facilities where painted surfaces are disturbed above specified thresholds (6 sq ft interior or 20 sq ft exterior per room). Firms must hold EPA RRP

certification, individual renovators must be trained, and lead-safe work practices must be documented throughout the project.

30. C — Total float equals Late Start minus Early Start (or equivalently Late Finish minus Early Finish): 45 − 30 = 15 days. This represents the maximum delay the activity can absorb without delaying project completion; activities on the critical path have zero total float by definition.
31. B — The ADA Title III alteration requirements obligate alterations to public accommodations to be readily accessible, and when alterations affect a primary function area, an accessible path of travel to that area (along with restrooms, telephones, and drinking fountains serving it) is also required. The path-of-travel obligation is capped at a "disproportionate cost" limit (typically 20 percent of the primary alteration cost).
32. A — Net worth (owner's equity) equals total assets minus total liabilities: $2,000,000 − $1,200,000 = $800,000. This figure is the residual ownership interest in the firm after all creditor claims and is the key balance sheet figure for surety bonding capacity calculations and bank lending decisions.
33. D — Builder's risk policies commonly exclude flood damage, but a flood endorsement (or separate flood insurance policy through NFIP or the private market) can be purchased to add the coverage. Premium depends on the FEMA flood zone designation, project value, and underwriting; high-hazard zones carry significantly higher rates.
34. B — Total revenue earned equals contract value times percent complete: $5,000,000 × 35% = $1,750,000. Subtracting the $1,400,000 already recognized leaves $350,000 of additional revenue to recognize this quarter under percentage-of-completion accounting, matching revenue to the proportion of work completed.
35. A — OSHA's crane operator certification rule at 29 CFR 1926.1427 requires operator certification for cranes with maximum rated capacity over 2,000 pounds used in construction. Certification is typically obtained through NCCCO or an equivalent accredited program, with both written and practical examinations testing competency on the crane type the operator will run.
36. C — Cost-loading assigns a dollar value to each schedule activity based on its scope and resource requirements, enabling the CPM schedule to drive earned value calculations, progress-based pay applications, cash flow forecasts, and integrated time-cost analysis. The technique converts the schedule from a pure time tool into a combined time-and-cost management instrument.
37. D — Termination for convenience clauses typically entitle the contractor to recover the cost of work performed to date, reasonable demobilization expenses, settlement costs, and a reasonable profit on the work performed. Unlike termination for cause, the contractor is not penalized, but anticipated profit on unperformed work is generally not recoverable unless the contract specifically provides for it.
38. A — Total burden equals the sum of all burden components: 18 + 12 + 8 + 7 = 45 percent. Fully-burdened hourly cost = base wage × (1 + burden) = $30 × 1.45 = $43.50 per hour. This is the labor cost the contractor uses in estimating to recover all employer-paid labor expenses on each productive hour.
39. B — Construction job cost accounting tracks costs by category — direct labor, direct materials, equipment, subcontracts, other direct costs, and allocated indirect costs (overhead) — for each active project. The categorical structure supports project profitability analysis, variance reporting against estimates, and refinement of future estimates based on actual cost data captured during projects.
40. C — Variable Cost Ratio equals Variable Costs divided by Revenue: $3,000,000 ÷ $4,000,000 = 75 percent. This means 75 cents of every revenue dollar is consumed by variable costs, leaving 25

cents of contribution margin to cover fixed costs and profit; lower variable cost ratios increase a firm's operating leverage.

41. A — OSHA's respirable crystalline silica standard for construction at 29 CFR 1926.1153 sets a permissible exposure limit of 50 micrograms per cubic meter as an 8-hour time-weighted average. Compliance requires either implementation of Table 1 specified exposure control methods or an exposure assessment paired with engineering controls, work practices, respiratory protection, training, and medical surveillance where indicated.
42. D — Sureties typically calculate aggregate bonding capacity using the more restrictive of working capital × 10 and net worth × 20: $500,000 × 10 = $5,000,000 (working capital basis) versus $750,000 × 20 = $15,000,000 (net worth basis). The smaller figure, $5,000,000, caps aggregate capacity because both indicators must support the bonded program.
43. B — Construction financing is short-term, interest-only borrowing with periodic draws funding the build, while permanent financing is long-term amortizing debt that replaces the construction loan at completion. The "take-out" structure transitions the project from build-phase financing to operational-phase financing once the project is generating revenue or otherwise stabilized.
44. C — The Modified Accelerated Cost Recovery System (MACRS) accelerates depreciation by allocating larger deductions in the early years of an asset's life and smaller deductions later, providing tax benefit through faster recovery of the deduction. Total depreciation over the asset's life still equals the depreciable basis, but the time value of the earlier deductions yields the tax advantage.
45. D — Type I differing site conditions are conditions materially different from those indicated in the contract documents, where recovery rests on the contractor's reliance on the owner's representations. Type II DSCs are unknown and unusual physical conditions differing materially from conditions ordinarily encountered in similar work, with recovery not requiring reliance on contract document representations. Both typically support recovery under a DSC clause.
46. B — Project profit equals contract value minus all project costs: $800,000 − $560,000 direct − $80,000 overhead − $16,000 bond/insurance = $144,000. This figure represents the contractor's net profit on the project after both direct costs and allocated indirect costs are deducted, and is the bottom-line measure of project economic performance.
47. A — Workers compensation premiums are based on classification codes (typically NCCI codes in most states) that group occupations by hazard level, with each code assigned a specific rate per $100 of payroll. Contractor payroll is split across applicable codes (roofing, electrical, office, etc.) so that high-hazard work attracts higher premium and lower-hazard work attracts lower premium.
48. C — Bid price equals direct cost plus markups calculated separately on direct cost: $400,000 + ($400,000 × 12%) + ($400,000 × 8%) = $400,000 + $48,000 + $32,000 = $480,000. Both markups computed on the same direct cost base and added produce the bid figure without compounding effects.
49. D — Form W-2 (Wage and Tax Statement) is issued to each individual employee and to the SSA/IRS, reporting that employee's wages and federal tax withholdings for the year. Form W-3 (Transmittal of Wage and Tax Statements) is the summary cover sheet that aggregates all W-2 totals when the employer files its annual wage report with the Social Security Administration.
50. B — Pay application billing per line item equals the line item's contract value times current percent complete, less any prior period billings: $120,000 × 75% = $90,000, with no prior billing on this line. The Schedule of Values structure allows progress to be tracked and billed on a line-by-line basis as each component advances toward completion.