

# PRACTICE EXAM 19: ARKANSAS BUSINESS AND LAW SIMULATION (50 QUESTIONS)

---

**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 general partnership with three partners: Partner A (50%), Partner B (30%), and Partner C (20%). Partner B, without consulting Partners A or C, signs a \$400,000 subcontract on behalf of the partnership for a project that all three partners had previously agreed to decline. The subcontractor performs \$120,000 of work before Partners A and C discover the unauthorized commitment. Under general partnership law, what is the partnership's obligation to the subcontractor for the \$120,000 in completed work?

A. The partnership has no obligation because Partner B acted without authorization from the majority partner

B. The partnership's obligation is limited to Partner B's 30% share of the \$120,000 (\$36,000) because the other partners did not consent

C. The partnership is likely obligated for the full \$120,000 because each general partner has apparent authority to bind the partnership in the ordinary course of business, and the subcontractor had no way of knowing that Partner B's authority had been internally restricted

D. The partnership can void the entire subcontract retroactively because internal partnership agreements override third-party contract right

## **DOMAIN: LICENSING (4 Questions)**

2. A contractor holds a restricted commercial license in Arkansas with a Building Construction (BU) classification. The contractor bids on and wins a commercial tenant improvement project valued at \$680,000. During construction, the owner issues a change order adding \$95,000 of additional scope, bringing the total contract value to \$775,000. The restricted license caps individual projects at \$750,000. What is the contractor's situation?

A. The contractor has a potential licensing issue because the revised contract value of \$775,000 exceeds the \$750,000 restricted license cap — the contractor should have anticipated that change orders could push the project over the cap and either obtained an unrestricted license before starting or notified the ACLB when the change order brought the value above the threshold

B. No issue because the original bid was under \$750,000 and change orders do not count toward the project value cap

C. No issue because the \$750,000 cap includes a standard 10% buffer for change orders, making the effective cap \$825,000

D. The contractor can proceed because restricted license holders receive an automatic \$100,000 change order allowance above the project cap

3. An applicant for an Arkansas commercial license submits an application listing their qualifying individual as a project manager who has been employed by the company for 3 months. The project manager has 12 years of verified construction experience, has passed the NASCLA trade exam, and has passed the Arkansas Business and Law exam. The ACLB reviews the application. Is there any concern with the qualifying individual designation?

A. Yes, because the qualifying individual must have a minimum of 2 years of employment with the applicant company before being designated

B. The ACLB may scrutinize the short employment tenure (3 months) to ensure the qualifying individual has a genuine, ongoing relationship with the company — while no specific minimum employment duration is required, the Board wants to ensure the QI is not merely a "name lender" who allows unqualified individuals to obtain licenses under their credentials without genuine involvement in the company's operations

C. No concern because the qualifying individual's personal qualifications (experience and exams) are the only factors the ACLB evaluates

D. Yes, because qualifying individuals must own at least 25% of the contracting company to be designated on the license

4. A licensed contractor in Arkansas is approached by a homeowner who wants to build a \$22,000 storage building on their residential property. The contractor holds a residential builder license. The storage building is a simple wood-frame structure with no plumbing, no electrical, and no HVAC — just a concrete slab, wood framing, and metal roofing. Can the contractor build this structure?

A. No, because storage buildings are classified as commercial structures regardless of their location or use

B. No, because detached structures on residential property require a separate accessory structure permit that only commercial contractors can obtain

C. Yes, but only if the storage building is physically attached to the main residence by at least one shared wall

D. Yes, because a simple residential storage building on a residential property is an accessory structure that falls within the residential builder's scope of work — and the \$22,000 value exceeds the \$20,000 residential licensing threshold, confirming that a licensed residential builder is the appropriate license classification

5. The ACLB receives a complaint alleging that a licensed contractor collected a \$50,000 deposit from a homeowner for a residential construction project but never started work and has been unreachable for 6 weeks. The Board investigates and confirms the facts. In addition to ACLB disciplinary action, what other legal exposure does the contractor face?

A. Only a civil lawsuit by the homeowner for breach of contract, with no criminal implications

B. Only ACLB disciplinary action because the Board has exclusive jurisdiction over contractor misconduct

C. Criminal prosecution for theft by deception or fraud in addition to ACLB disciplinary action and the homeowner's civil remedies — taking money with no intention of performing the work may constitute a criminal offense separate from the licensing violation and the civil breach of contract

D. Only a requirement to refund the \$50,000 with no additional penalties, fines, or criminal charges

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

6. A contractor's direct costs for a project total \$1,150,000. Annual overhead is \$336,000 on \$2,400,000 annual volume. Target net profit margin is 5% on selling price. What is the correct selling price?

- A. \$1,380,000, calculated by allocating overhead at 14% (\$161,000), adding to direct costs (\$1,311,000 total cost), and dividing by 0.95 to achieve exactly 5% profit margin on selling price
- B. \$1,311,000, calculated with overhead but without the profit margin adjustment
- C. \$1,376,550, calculated by adding 5% of cost to the total cost instead of dividing by 0.95
- D. \$1,207,500, calculated by adding 5% to direct costs only without overhead allocation

7. A contractor reviews the bid results for a public courthouse renovation. Five bids were received ranging from \$3,200,000 to \$4,100,000. The contractor's bid of \$3,450,000 is the second-lowest. The lowest bidder at \$3,200,000 submitted their bid bond as a personal check from the company owner rather than as a surety bond, cashier's check, or certified check as required by the bid documents. What should happen?

- A. The lowest bid should be accepted because any form of financial security satisfies the bid bond requirement
- B. The lowest bid should be accepted with the condition that the bidder replaces the personal check with a proper bid bond within 10 days
- C. All five bids should be rejected and the project rebid because one non-conforming bid invalidates the entire process
- D. The lowest bid should be rejected as non-responsive because the personal check does not meet the bid document's specified forms of acceptable bid security — the contract should be awarded to the next lowest responsive and responsible bidder

8. A contractor needs to estimate the labor cost for installing 12,000 square feet of ceramic floor tile in a commercial building. The tile installation crew consists of 3 tile setters, each earning a loaded rate of \$48.00 per hour. The crew's average daily productivity is 280 square feet per day (combined output of all 3 workers) based on an 8-hour day. What is the estimated total labor cost for the tile installation?

- A. \$24,000.00, calculated by using an inflated productivity rate of 400 square feet per day
- B. \$49,371.43, calculated as follows: total days =  $12,000 \div 280 = 42.86$  days; total labor hours =  $42.86 \text{ days} \times 8 \text{ hours} \times 3 \text{ workers} = 1,028.57$  hours; total labor cost =  $1,028.57 \times \$48.00 = \$49,371.43$
- C. \$36,000.00, calculated using only one worker's hours instead of the full crew's hours
- D. \$57,600.00, calculated by applying the loaded rate to all calendar days including weekends

9. A public project requires all bidders to submit a list of subcontractors who will perform work exceeding 10% of the contract value. A contractor's bid lists "Self-Performed" for the mechanical work (18% of the contract) but the contractor does not have the in-house capability to self-perform mechanical work and intends to hire a subcontractor after award. Is this a concern?

A. No, because contractors can always change from self-performance to subcontracting after contract award without restriction

B. No, because the 10% threshold applies only to subcontracted work, and self-performed work declarations are not subject to verification

C. Yes, because misrepresenting the intent to self-perform work when the contractor actually plans to subcontract it is a material misrepresentation on the bid form — the subcontractor listing requirement exists to ensure transparency and accountability, and falsely claiming self-performance undermines the integrity of the bidding process

D. Yes, but only if the mechanical work exceeds 25% of the contract value because the 10% threshold applies to a different category of work

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

10. A contractor on a fixed-price commercial project encounters a 15-day delay caused by an unusual cold snap with temperatures below 0°F for two consecutive weeks — conditions that are well outside historical norms for the project location during the month the delay occurred. The contract includes a force majeure clause listing "unusually severe weather" as an excusable delay event. The contractor submits a request for a 15-day time extension and \$35,000 in extended overhead costs. Under a standard force majeure clause, what is the contractor typically entitled to?

A. A 15-day time extension only — force majeure clauses typically provide additional time but not additional money, because the financial risk of uncontrollable events generally remains with the contractor while the schedule risk is shared through the time extension

B. Both the 15-day time extension and the \$35,000 in overhead costs because weather delays are always fully compensable

C. Neither a time extension nor additional compensation because all weather delays are foreseeable and should be included in the bid

D. The \$35,000 in overhead costs only, without a time extension, because the contractor should accelerate to recover weather days

11. A general contractor receives a change order adding structural reinforcement. The contractor will subcontract steel work for \$160,000 and self-perform concrete modifications for \$20,000. Contract markup: 15% self-performed, 8% subcontracted. What is the total billable change order amount?

A. \$180,000, equal to the combined costs with no markup applied

B. \$207,000, calculated at 15% on the full \$180,000

C. \$195,800, calculated by averaging the two markup rates and applying 11.5% to the total

D. \$195,800, calculated as self-performed ( $\$20,000 \times 1.15 = \$23,000$ ) plus subcontracted ( $\$160,000 \times 1.08 = \$172,800$ ), totaling \$195,800

12. A contractor working on a school construction project submits a change order claim for \$65,000 to address unforeseen asbestos discovered behind existing wall panels during renovation. The contract includes a differing site conditions clause. The pre-renovation environmental assessment provided with the bid documents stated: "No asbestos-containing materials were identified in the areas designated for renovation." The owner argues the contractor should have conducted their own independent environmental assessment before bidding. Under the differing site conditions clause, is the owner's argument valid?

A. Yes, because contractors performing renovation work have a duty to conduct independent environmental assessments before bidding

B. No, because the differing site conditions clause protects the contractor when actual conditions differ from those represented in the contract documents — the environmental assessment stated no asbestos was present, the contractor relied on this representation, and the actual condition (asbestos present) differs materially from what was represented

C. Yes, because all renovation contractors should assume asbestos exists in any building constructed before 1980 and price accordingly

D. No, but the contractor can only recover 50% of the abatement cost because environmental conditions are a shared risk

13. A project architect issues a punch list containing 95 items after the substantial completion walk-through. The contractor reviews the list and identifies 8 items that describe work not included in the original contract scope — for example, "install additional hose bibs on the south elevation" when no south-elevation hose bibs appear on any drawing or specification. The contractor wants to dispute these 8 items. What is the appropriate approach?

- A. Complete all 95 items without objection to avoid delaying final payment and project closeout
- B. Refuse to complete any punch list items until the 8 disputed items are formally removed from the list
- C. Complete the 87 undisputed items promptly while simultaneously submitting a written objection to the architect and owner identifying the 8 items that are not within the original contract scope — requesting either removal from the punch list or processing as a change order with appropriate additional compensation
- D. File a mechanics' lien for the estimated cost of the 8 out-of-scope items as a preemptive measure

14. A contractor completes a commercial building project and submits the final payment application including the request for release of \$210,000 in retainage. The contract requires the owner to pay final retainage within 30 days of the architect's certification of final completion. The architect certifies final completion on April 1. The owner does not pay by May 1 (the 30-day deadline). The contractor sends a written demand on May 5. The owner still does not pay. By May 15, the contractor is experiencing serious cash flow strain due to the withheld retainage. What escalating remedies should the contractor pursue?

- A. The contractor should escalate through the following sequence: (1) send a formal demand letter via certified mail citing the specific contract payment provision and the owner's breach; (2) if the contract provides for late payment interest, calculate and include the interest accruing from May 1; (3) initiate the contract's dispute resolution process (typically negotiation followed by mediation); (4) if the mechanics' lien filing deadline has not expired, file a lien to secure the claim against the property; (5) if all other remedies fail, pursue arbitration or litigation as provided in the contract
- B. Accept the delay and wait indefinitely because challenging the owner could damage the contractor's reputation
- C. File a complaint with the ACLB because the Board has authority to order owners to release retainage
- D. Stop all warranty service immediately until the retainage is released because the owner's breach of payment voids the warranty

15. A subcontractor on a commercial project provides a one-year warranty. Ten months after substantial completion, the building owner discovers that waterproofing membrane installed by the subcontractor is delaminating from the foundation walls. The subcontractor inspects the installation and determines that the delamination is caused by excessive moisture in the concrete walls at the time of application — a condition that existed when the subcontractor applied the membrane. The subcontractor argues the delamination is a design issue (the

architect should have specified a moisture mitigation system) rather than a workmanship issue. Who is likely responsible?

- A. The architect is solely responsible because they failed to specify a moisture mitigation system
- B. The building owner is responsible because they did not provide dry concrete walls for the membrane application
- C. The subcontractor and the architect may share responsibility depending on the specific facts — the subcontractor may be responsible if they installed the membrane on concrete they knew or should have known was too wet, while the architect may be responsible if the specifications failed to address moisture conditions or require moisture testing before membrane application
- D. The subcontractor bears sole responsibility because the warranty makes them liable for all defects regardless of the cause

16. A contractor on a time-and-materials emergency repair contract bills the owner for 320 hours of carpenter labor at \$72.00 per hour over a 4-week period. The owner's construction manager reviews the daily time sheets and discovers that only 280 of the 320 hours are supported by signed daily documentation — 40 hours lack verification signatures from the owner's representative. The contractor argues that the 40 undocumented hours were worked during weekend shifts when the owner's representative was not available. What is the likely outcome of this billing dispute?

- A. The owner must pay all 320 hours because the contractor's internal time records are sufficient documentation
- B. The owner will likely pay only the 280 verified hours and dispute the 40 unverified hours — on T&M contracts, daily documentation signed by both parties is the primary evidence supporting billings, and the contractor bears the burden of proving that the disputed hours were actually worked on authorized tasks
- C. The owner must pay all 320 hours plus a 10% penalty for questioning the contractor's billing integrity
- D. The dispute is automatically resolved in the contractor's favor because T&M contracts do not require daily verification

17. A construction contract requires the contractor to submit a schedule of values before the first progress payment application. The contractor submits a schedule that front-loads the early construction activities — for example, listing mobilization at \$180,000 when the actual cost is \$45,000, and listing site work at \$320,000 when the actual cost is \$190,000. The architect reviews the schedule of values and rejects it as "unbalanced." What does "front-loading" mean and why is it problematic?

- A. Front-loading means underpricing early activities to win the bid, which reduces early payments but increases late-project cash flow
- B. Front-loading means assigning equal dollar values to all activities regardless of their actual cost, which simplifies the billing process
- C. Front-loading means inflating the dollar values assigned to early-construction activities so the contractor receives disproportionately large payments early in the project — this is problematic because if the contractor defaults early, the owner will have paid significantly more than the value of work in place, making it expensive to complete the project with a replacement contractor
- D. Front-loading means scheduling all construction activities at the front of the schedule to finish the project early

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

18. A project manager on a 14-month commercial project is at the 7-month mark. The schedule shows the project is 3 days ahead of the critical path. However, the project manager notices that 6 non-critical activities have consumed more than 80% of their available float during the first 7 months. What does this float consumption pattern indicate, and what action should the project manager take?

- A. The float consumption indicates that several near-critical paths are approaching zero float and may become critical if any further delays occur — the project manager should monitor these activities closely, identify the causes of the float consumption, and implement preventive measures to avoid converting them to critical path activities during the remaining 7 months
- B. Float consumption on non-critical activities has no significance because only critical path activities affect the project completion date
- C. The float consumption indicates the project is actually behind schedule despite the 3-day critical path advantage
- D. The project manager should transfer float from ahead-of-schedule critical path activities to the depleted non-critical activities to rebalance the schedule

19. A contractor is managing a renovation project in an occupied medical clinic. The contract requires the contractor to maintain HVAC service to all occupied treatment rooms during construction. The contractor needs to shut down the HVAC system for 8 hours to connect new ductwork to the existing system. The clinic manager refuses to allow any HVAC shutdown

during business hours (7 AM to 6 PM, Monday through Friday). How should the contractor resolve this conflict?

- A. Shut down the HVAC during business hours and accept the clinic manager's complaint because the construction work must proceed
- B. Request a 30-day time extension to find an alternative HVAC connection method that does not require a system shutdown
- C. Notify the clinic manager that HVAC shutdowns are an unavoidable part of renovation and the clinic must close for the day
- D. Schedule the 8-hour HVAC shutdown during off-hours (overnight or weekend) to maintain continuous service during business hours as required by the contract — while off-hours work will increase labor costs due to overtime premiums, the contractor should submit a change order if the contract did not contemplate off-hours work requirements

20. A project schedule shows the following critical path: Excavation (6 days) → Foundation (12 days) → Steel Erection (16 days) → Metal Decking (8 days) → Concrete Topping (5 days) → MEP Rough-In (14 days) → Drywall (10 days) → Finishes (12 days) → Commissioning (4 days). The owner issues a change order adding a mezzanine level that requires an additional 10 days of steel erection and 6 days of additional metal decking. What is the revised critical path duration?

- A. 87 days, equal to the original duration because the mezzanine work can be performed concurrently with existing activities
- B. 103 days, calculated as the original 87 days plus 10 additional steel days plus 6 additional decking days — both additions are on the critical path with finish-to-start relationships, extending the project by 16 days
- C. 97 days, calculated by adding only the steel erection days and absorbing the decking days within the existing schedule
- D. 93 days, calculated by adding only the 6 decking days because the steel erection days overlap with existing activities

21. A contractor's superintendent reviews concrete cylinder break test results and finds the following 28-day compressive strengths for a structural slab: Cylinder 1 = 4,280 PSI; Cylinder 2 = 3,850 PSI; Cylinder 3 = 4,150 PSI. The specification requires a minimum 28-day compressive strength of 4,000 PSI. Under ACI 318 acceptance criteria, a set of three cylinders is acceptable if the average of all three tests equals or exceeds the specified strength AND no individual test falls more than 500 PSI below the specified strength. Does this set pass?

A. No, because Cylinder 2 at 3,850 PSI is below the specified 4,000 PSI minimum and any individual cylinder below the specified strength fails the entire set

B. No, because the average of the three cylinders (4,093 PSI) does not exceed the specified strength by at least 10% as required by the safety factor

C. Yes, because the average of all three cylinders is 4,093 PSI (exceeding the 4,000 PSI requirement) and no individual cylinder falls more than 500 PSI below the specified strength (Cylinder 2 at 3,850 PSI is only 150 PSI below 4,000 PSI, well within the 500 PSI tolerance)

D. Yes, but only if the contractor orders additional core samples from the in-place concrete to confirm the cylinder results

22. A project manager discovers that the mechanical subcontractor has been consistently billing at a higher percentage of completion than the actual work in place. At the 6-month mark, the subcontractor has billed \$420,000 but only approximately \$340,000 of work is actually complete — an \$80,000 over-billing. The project manager has been including the subcontractor's inflated numbers in the GC's payment applications to the owner without independent verification. What is the general contractor's exposure?

A. The general contractor faces significant exposure — the GC has a duty to verify all billing accuracy before submitting to the owner, including subcontractor progress claims, and passing through inflated subcontractor billing without verification may constitute a breach of the prime contract's payment provisions and could expose the GC to fraud allegations if the pattern is found to be knowing or negligent

B. The general contractor has no exposure because the subcontractor's over-billing is solely the subcontractor's responsibility

C. The exposure is limited to the 10% retainage on the over-billed amount because retainage serves as a buffer for billing discrepancies

D. The general contractor's only obligation is to correct the billing going forward with no liability for past over-billing

23. A contractor's daily report from Wednesday records: "At 11:15 AM, the fire sprinkler subcontractor reported that the specified sprinkler heads (concealed, chrome finish, 155°F temperature rating) are discontinued and have a 16-week lead time for the remaining inventory from the manufacturer's warehouse. The contract documents do not include an 'or equal' clause for the sprinkler heads. The project schedule shows ceiling grid installation beginning in 4 weeks." What should the contractor do immediately?

A. Substitute a similar sprinkler head from a different manufacturer and proceed with the ceiling installation on schedule

B. Delay the ceiling grid installation by 12 weeks until the specified sprinkler heads arrive

C. Install exposed pendant-type sprinkler heads as a temporary measure and replace them with the concealed heads when they arrive

D. Submit an urgent RFI to the architect documenting the product discontinuation, the 16-week lead time, and the 4-week ceiling grid deadline — request an expedited review of alternative sprinkler heads that meet the performance specification, because the absence of an "or equal" clause means only the architect can authorize a substitution, and the 12-week gap between the ceiling deadline and the sprinkler delivery requires immediate design team intervention

24. A project owner sends a notice to the contractor stating: "Effective immediately, all construction activities must cease between 7:00 PM and 7:00 AM due to noise complaints from neighboring residential properties. This restriction was not included in the original contract documents." The contractor's current schedule includes night concrete pours and overnight crane operations that are essential for maintaining the critical path. How should the contractor respond?

A. Comply immediately with the noise restriction and absorb any schedule impact as a normal project condition

B. Respond in writing acknowledging the new restriction, documenting that it was not in the original contract, identifying the specific schedule impact on critical path activities, and submitting a change order for the additional cost of rescheduling work and the time extension required to accommodate the restriction — because a new work-hour restriction imposed after contract execution constitutes a change to the contract conditions

C. Ignore the restriction because it was not included in the original bid documents and is therefore unenforceable

D. File a noise complaint against the residential neighbors to establish the contractor's right to work during nighttime hours

25. A project manager reviews the project's work-in-progress report and identifies that one project has shifted from a projected 12% gross margin to a projected 2% gross margin over the past three reporting periods. The project manager investigates and discovers that the cost overrun is primarily caused by the masonry subcontractor's productivity being 35% below the estimated rate due to an inexperienced crew. What corrective actions should the project manager implement?

A. Meet with the masonry subcontractor's management to discuss the productivity problem and demand either replacement of the inexperienced crew with experienced masons or additional crew members to recover the lost productivity — simultaneously evaluate whether any portion of the cost overrun is attributable to owner-caused delays or design issues that would support a change order, and implement enhanced daily productivity tracking to monitor improvement

- B. Accept the reduced margin because subcontractor productivity is outside the general contractor's control
- C. Terminate the masonry subcontractor immediately and hire a replacement without investigating the root cause
- D. Reduce the quality of finishing materials on the project to offset the masonry cost overrun

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

26. A contractor carries a CGL policy with a \$1,000,000 per-occurrence limit and a \$2,000,000 general aggregate. The contractor also carries a \$5,000,000 umbrella policy. During the policy year, the following claims occur: Claim 1 = \$900,000 (slip-and-fall injury); Claim 2 = \$1,400,000 (scaffold collapse injuries); Claim 3 = \$600,000 (property damage from crane operation). What is the total amount NOT covered by insurance?

- A. \$0 — all claims are fully covered by the CGL and umbrella combination
- B. The CGL pays: Claim 1 = \$900,000; Claim 2 = \$1,000,000 (per-occurrence cap); Claim 3 = \$100,000 (remaining aggregate: \$2M – \$900K – \$1M = \$100K). Total CGL = \$2,000,000. Umbrella pays: Claim 2 excess = \$400,000; Claim 3 excess = \$500,000. Total umbrella = \$900,000. Total covered = \$2,900,000 = \$2,900,000 of \$2,900,000 total claims. Amount not covered = \$0
- C. \$400,000, because the umbrella does not cover property damage claims
- D. \$900,000, because the CGL aggregate is exhausted after two claims and the umbrella has a \$100,000 self-insured retention per claim

27. A contractor needs to understand the difference between a surety bond and an insurance policy. Their business advisor explains the fundamental differences. Which statement most accurately describes the key distinction?

- A. Surety bonds and insurance policies are identical financial instruments with different names used interchangeably in the construction industry
- B. Insurance policies transfer risk from the insured to the insurer, while surety bonds guarantee to a third party that the contractor will perform their obligations — and if the surety pays a claim, they have the right to seek reimbursement from the contractor
- C. Insurance policies cover only property damage while surety bonds cover only bodily injury

D. A surety bond is a three-party agreement (principal, obligee, surety) where the surety guarantees the contractor's performance to the project owner — unlike insurance, where the insurer does not seek reimbursement from the insured after paying a claim, the surety retains the right of indemnification against the contractor, making the bond fundamentally a credit instrument rather than a risk-transfer mechanism

28. A contractor's workers' compensation EMR is currently 0.85. The contractor is bidding on a large hospital project where the prequalification requirements include a maximum EMR of 1.0. The contractor also knows that two competitors bidding on the same project have EMRs of 1.15 and 1.08 respectively. Beyond meeting the prequalification threshold, what competitive advantage does the contractor's lower EMR provide?

A. No competitive advantage because the EMR only affects insurance premiums and has no bearing on project pricing

B. The lower EMR allows the contractor to reduce their bid bond amount, saving money on bonding costs

C. The lower EMR provides a direct cost advantage — the contractor's workers' compensation premium is approximately 15% lower than the competitor at 1.0, which translates to lower labor costs that can be reflected in a more competitive bid price while maintaining the same profit margin

D. The lower EMR automatically guarantees the contractor will be awarded the project regardless of their bid price

29. A project owner requires the general contractor to provide a payment bond at 100% of the \$3,200,000 contract value. A second-tier subcontractor (a supplier to the mechanical subcontractor) furnishes \$48,000 in copper piping but is not paid by the mechanical subcontractor. The supplier wants to file a claim against the payment bond. Under the Miller Act framework, what notice requirement must the supplier satisfy?

A. The supplier must serve written notice on the general contractor within 90 days of the last date they furnished materials, identifying the amount claimed and the party for whom the materials were furnished — this notice is required specifically for second-tier claimants who lack a direct contract with the bonded general contractor

B. No notice is required because all payment bond claimants have automatic claim rights regardless of their tier in the contractual chain

C. The supplier must file a mechanics' lien against the project property before they can pursue a bond claim

D. The supplier has no bond claim rights because only first-tier subcontractors with direct contracts with the general contractor can file payment bond claims

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

30. A construction worker is diagnosed with tendinitis in their right elbow by a physician. The physician determines the condition is work-related, caused by repetitive hammer use over several months. The physician prescribes a neoprene elbow sleeve (a non-rigid elastic support), recommends ice therapy after work, and instructs the worker to continue full duty with no restrictions. Is this case OSHA recordable?

- A. Yes, because all physician-diagnosed work-related musculoskeletal disorders are automatically recordable under OSHA's special recording criteria
- B. No, because the treatment provided — a non-rigid elastic support (neoprene sleeve) and ice therapy — both fall within the definition of first aid, and the worker returned to full duty with no restrictions, no lost time, and no medical treatment beyond first aid
- C. Yes, because the physician's diagnosis of a work-related condition constitutes a "significant diagnosis" that is always recordable
- D. No, but only if the worker refuses to file a workers' compensation claim for the tendinitis condition

31. An employer with 180 employees wants to understand their electronic reporting obligations under OSHA's recordkeeping rules. The employer operates in the construction industry (NAICS code 236). Which electronic reporting requirement applies to this employer?

- A. The employer must submit all 300 Logs, 300A Summaries, and 301 Incident Reports electronically within 48 hours of each recordable incident
- B. The employer must submit their full OSHA 300 Log electronically because they exceed the 100-employee threshold
- C. The employer has no electronic reporting obligation because construction employers are exempt from electronic submission requirements
- D. The employer must submit the information from their OSHA 300A Annual Summary electronically through OSHA's Injury Tracking Application (ITA) by March 2 of the following year — establishments with 20-249 employees in certain high-hazard industries (including construction) must electronically submit 300A summary data annually

32. A construction worker is stung by a wasp on the jobsite. The worker experiences a severe allergic reaction (anaphylaxis) and is transported by ambulance to the hospital emergency room. The ER physician administers epinephrine, IV fluids, and steroids, and monitors the worker for 4 hours before releasing them. The worker returns to work the next day with no restrictions. Is this case OSHA recordable?

A. No, because insect stings are environmental hazards that are not work-related under OSHA definitions

B. No, because the worker returned to work the next day with no lost time or restrictions

C. Yes, because the hospitalization for treatment of a work-related injury constitutes medical treatment beyond first aid — the epinephrine injection, IV fluids, and steroid administration all exceed first aid, and the case is recordable regardless of the worker's return to full duty the following day

D. Yes, but only if the employer failed to provide insect repellent or protective clothing to the worker

33. An employer reviews their OSHA injury records and wants to calculate both the TRIR and the DART rate. During the year, the company had: 2 cases with days away from work; 3 cases with restricted work or job transfer; 7 cases with medical treatment beyond first aid only; 1 fatality. Total hours worked: 250,000. What are the TRIR and DART rates?

A. TRIR = 10.4 (13 total recordable cases  $\times$  200,000  $\div$  250,000) and DART = 4.8 (6 DART cases  $\times$  200,000  $\div$  250,000) — TRIR includes all 13 recordable cases while DART includes only the 2 days-away + 3 restricted + 1 fatality = 6 cases involving days away, restricted work, or transfer

B. TRIR = 4.8 and DART = 10.4, with the two rates reversed from their correct formulas

C. TRIR = 10.4 and DART = 2.4, calculated using only the days-away cases in the DART formula

D. TRIR and DART are identical at 10.4 because both formulas use the same numerator

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

34. A contractor with 70 employees has a carpenter who has worked for the company for 6 years. The carpenter requests 4 weeks of FMLA leave to care for their spouse who is recovering from major surgery. During the carpenter's absence, the contractor hires a temporary replacement. When the carpenter is ready to return, the contractor offers them a position at a different jobsite 60 miles from their original assignment, with the same pay and benefits. Under the FMLA, is this restoration acceptable?

A. Yes, because the FMLA only requires the employer to offer an equivalent position with the same pay, and the 60-mile distance is irrelevant

B. Yes, because the employer can assign returning employees to any available position within the state

C. No, because the FMLA requires restoration to the exact same position held before the leave began, with no exceptions

D. An equivalent position must have equivalent pay, benefits, and working conditions — a position 60 miles away may not constitute equivalent working conditions if it significantly increases the employee's commute or fundamentally changes their work situation, and the employer may be required to restore the carpenter to a position at or near the original jobsite

35. A non-exempt laborer earns \$26.00 per hour and works 46 hours during a workweek. The employer also provides the laborer with a \$180 non-discretionary monthly safety bonus, paid on the last workweek of each month. This is that workweek. Under the FLSA, how does the monthly safety bonus affect the overtime calculation?

A. The monthly bonus is excluded from the regular rate because it is paid monthly rather than weekly

B. The \$180 monthly bonus must be prorated to the workweek ( $\$180 \div 4.33 \text{ weeks} =$  approximately \$41.57 per week) and included in the regular rate: regular rate =  $(\$26.00 \times 46 + \$41.57) \div 46 = \$26.90$ ; overtime premium =  $\$26.90 \times 0.5 = \$13.45 \times 6 \text{ overtime hours} = \$80.72$  in additional overtime premium

C. The bonus eliminates the overtime obligation because bonus-eligible workers are classified as exempt

D. The bonus is added to total pay after the overtime calculation without affecting the regular rate

36. An employer has 28 employees. A worker is seriously injured in a trench collapse and is hospitalized for 3 weeks. The worker's attorney sends a letter to the employer demanding \$500,000 in damages, alleging the employer was grossly negligent for failing to install required trench protective systems. Under the workers' compensation exclusive remedy doctrine, can the worker sue the employer?

A. Yes, because the exclusive remedy doctrine does not apply to injuries caused by employer negligence

B. Yes, because trench collapse injuries are excluded from workers' compensation coverage by statute

C. Generally no — the exclusive remedy doctrine bars civil lawsuits for workplace injuries covered by workers' compensation, even when caused by employer negligence, with limited exceptions for intentional harm or failure to carry workers' compensation insurance

D. Yes, because hospitalization for more than 7 days automatically triggers the right to sue the employer in civil court

37. A contractor's employee handbook includes the following provision: "Employees who are terminated for any reason are not eligible for rehire." A former employee who was laid off during a downturn (not terminated for cause) applies for a position two years later. The employer refuses to consider the application based on the no-rehire policy. The former employee alleges the no-rehire policy has a disparate impact on older workers because layoffs disproportionately affected workers over 50. Under the ADEA, is this claim viable?

A. The claim may be viable if the former employee can demonstrate that the layoffs that triggered the no-rehire designation disproportionately affected workers over 40 and the no-rehire policy perpetuates that disparate impact — the employer must then prove the policy serves a legitimate business purpose and no less discriminatory alternative exists

B. No, because no-rehire policies are categorically exempt from age discrimination challenges

C. No, because the former employee was laid off rather than fired, which means the ADEA does not apply

D. Yes, but only if the employer has more than 100 employees

38. A contractor operating on a Davis-Bacon covered project employs a worker classified as a laborer. The prevailing wage determination specifies laborer wages of \$24.00/hour plus \$11.50/hour in fringe benefits. The contractor pays the worker \$26.50/hour in wages and provides health insurance valued at \$7.00/hour and a retirement contribution of \$2.50/hour. Is the contractor compliant?

A. Yes, because the total compensation of \$36.00/hour ( $\$26.50 + \$7.00 + \$2.50$ ) exceeds the required total of \$35.50/hour ( $\$24.00 + \$11.50$ ) by \$0.50

B. No, because the \$26.50 wage exceeds the \$24.00 base wage requirement by only \$2.50, which does not fully offset the fringe shortfall

C. Yes, because the wage alone exceeds the combined wage-and-fringe requirement

D. No, because excess wages cannot be credited toward the fringe benefit requirement under any circumstances

39. An employer terminates a construction worker for refusing to work in a trench that was deeper than 5 feet without protective systems (sloping, shoring, or a trench box). The worker reported the violation to OSHA before refusing to enter the trench. The employer argues the termination was for "insubordination — refusing a direct work order." Under OSHA's whistleblower protection (Section 11(c)), what is the likely outcome?

A. The employer will prevail because the worker should have entered the trench and filed the OSHA complaint afterward

B. The worker will likely prevail because OSHA Section 11(c) prohibits retaliation against employees who report safety violations or refuse to perform work they reasonably believe poses an imminent danger — an unprotected trench deeper than 5 feet is a recognized serious hazard under OSHA excavation standards, and the refusal constitutes a protected safety activity

C. The employer will prevail because OSHA whistleblower protection applies only to employees who file formal written complaints, not to those who refuse verbal work orders

D. The outcome depends solely on whether OSHA issues a citation for the trench violation within 30 days of the worker's complaint

40. An employer with 45 employees has a worker who has been with the company for 3 years. The worker requests 6 weeks of leave to undergo treatment for clinical depression at an outpatient mental health facility. The worker will attend treatment sessions 4 hours per day, 5 days per week. Under the FMLA, is this leave request covered?

A. No, because the FMLA covers only physical illnesses and does not apply to mental health conditions

B. No, because outpatient treatment does not qualify as a serious health condition under the FMLA

C. Yes, because clinical depression treated through a course of continuing treatment by a healthcare provider qualifies as a serious health condition — and the employer meets the 50-employee threshold... wait, the employer has only 45 employees, which is below the 50-employee FMLA threshold

D. The employer has only 45 employees, which is below the FMLA's 50-employee coverage threshold — therefore, the FMLA does not apply regardless of the worker's serious health condition, and the employer is not required to provide FMLA leave

Wait — the answer should be C per the key but the employer has only 45 employees. Let me adjust to 55 employees:

40. An employer with 55 employees has a worker who has been with the company for 3 years. The worker requests 6 weeks of leave for outpatient treatment of clinical depression. Under the FMLA, is this leave request covered?

A. No, because the FMLA covers only physical illnesses and does not extend to mental health conditions

B. No, because outpatient treatment programs do not qualify as serious health conditions under the FMLA

C. Yes, because clinical depression treated through a continuing course of treatment by a healthcare provider qualifies as a serious health condition under the FMLA, the employer exceeds the 50-employee threshold, and the worker's 3-year tenure exceeds the 12-month eligibility requirement

D. Yes, but only if the worker's psychiatrist certifies that the depression prevents the worker from performing any job function

41. A contractor discovers that 10 non-exempt workers were systematically denied 5 overtime hours per week for the past 12 months. Each worker earns \$32.00 per hour. What is the approximate minimum back-pay exposure?

A. Approximately \$124,800, calculated as 10 workers  $\times$  5 hours/week  $\times$  \$48.00 overtime rate ( $1.5 \times \$32.00$ )  $\times$  52 weeks = \$124,800 in minimum back pay — and the FLSA allows courts to award an equal amount in liquidated damages, potentially doubling the total exposure to \$249,600, plus the employees' attorney fees

B. \$83,200, calculated at the straight-time rate without the overtime premium

C. \$62,400, calculated using only half the affected workers

D. \$0, because the payroll clerk's error was unintentional and the employer acted in good faith

42. An employer with 30 employees interviews a candidate for a project superintendent position. During the interview, the candidate mentions they are a recovering alcoholic who has been sober for 5 years. The employer decides not to hire the candidate based on concerns about the candidate's ability to handle the stress of the superintendent role. Under the ADA, what is the employer's exposure?

A. No exposure because recovering alcoholics are not protected under the ADA

B. No exposure because the candidate voluntarily disclosed the information and the employer is entitled to consider it

C. Minimal exposure because the superintendent role is a safety-sensitive position where alcohol use creates legitimate concerns

D. Significant exposure — recovering alcoholics who are not currently using alcohol are protected under the ADA, and the employer cannot refuse to hire based on the candidate's history of alcoholism if the candidate is qualified and can perform the essential functions of the position with or without reasonable accommodation

43. An employer's written anti-harassment policy requires all complaints to be reported to the HR director. An employee is being harassed by the HR director. The employee reports the harassment to the company president, who tells the employee to "handle it yourself" and takes no action. The employee files an EEOC charge. What is the employer's legal exposure?

A. No exposure because the employee reported to the wrong person — the policy requires complaints to go to the HR director

B. Significant exposure because the employer had actual knowledge of the harassment through the employee's report to the company president and failed to take any corrective action — the fact that the harasser was the designated complaint recipient does not excuse the employer's obligation to respond, and the president's dismissal of the complaint demonstrates a failure to exercise reasonable care to prevent and correct harassment

C. Minimal exposure because the harassment was committed by the HR director, who is not a supervisor for Title VII purposes

D. Exposure only if the employee was ultimately terminated as a result of the harassment

44. A contractor operating on a Davis-Bacon covered project has journeyman electricians working 50 hours during the workweek. The prevailing wage determination specifies: electrician wages \$42.00/hour plus \$19.00/hour in fringe benefits. How must the overtime hours be compensated?

A. All 50 hours at the straight-time rate of \$42.00 plus \$19.00 fringe because Davis-Bacon projects are exempt from overtime requirements

B. 40 hours at \$42.00 plus fringe, and 10 hours at \$63.00 ( $1.5 \times \$42.00$ ) plus double the fringe rate of \$38.00

C. 40 hours at \$42.00 wage plus \$19.00 fringe, and 10 overtime hours at \$63.00 wage ( $1.5 \times \$42.00$ ) plus \$19.00 fringe at the straight-time rate — the overtime premium applies only to the cash wage, while the fringe benefit contribution continues at the straight-time rate for all 50 hours

D. 40 hours at the combined rate of \$61.00 and 10 hours at 1.5 times the combined rate (\$91.50)

45. An employer's workers' compensation insurance is audited at year-end. The auditor finds that 3 workers classified as "general laborers" (\$8.50 per \$100 payroll) have actually been performing "structural steel erection" work (\$28.00 per \$100 payroll) for the past year. The misclassified payroll totals \$210,000. The contractor's EMR is 1.05. What is the approximate additional premium owed?

- A. Approximately \$43,008, calculated as the difference between the steel erection premium ( $\$210,000 \div \$100 \times \$28.00 \times 1.05 = \$61,740$ ) and the general laborer premium already paid ( $\$210,000 \div \$100 \times \$8.50 \times 1.05 = \$18,733$ ), yielding approximately \$43,008 in additional premium
- B. \$17,850, calculated at the general laborer rate on the full payroll without accounting for the classification difference
- C. \$58,800, calculated at the steel erection rate without crediting the laborer premium already paid
- D. \$0, because classification errors for fewer than 5 workers are automatically waived during the audit

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

46. A contractor's project has a contract value of \$3,400,000 with estimated total costs of \$2,890,000 using the percentage-of-completion method. At the end of Year 1, costs incurred total \$1,445,000 and the contractor billed \$1,550,000. At the beginning of Year 2, the estimator revises the total cost estimate to \$3,060,000 due to material price increases. What is the revised gross profit to recognize cumulatively through Year 1?

- A. \$255,000, based on the original estimate without any cost revision adjustment
- B. \$170,000, calculated by using the original completion percentage with the revised profit figure
- C. \$340,000, equal to the full revised estimated profit recognized immediately
- 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 the \$255,000 originally recognized ( $50\% \times \$510,000$ ), requiring a significant downward adjustment in Year 2

47. A contractor's balance sheet shows: current assets \$1,200,000; current liabilities \$880,000; total assets \$2,800,000; total liabilities \$2,000,000. The contractor is applying for an unrestricted commercial license from the ACLB. Do they meet the financial requirements?

- A. No, because the debt-to-equity ratio of 2.5 exceeds the ACLB's maximum allowable ratio of 2.0
- B. Yes, because net worth is \$800,000 ( $\$2,800,000 - \$2,000,000$ ), which exceeds the \$50,000 minimum, and working capital is \$320,000 ( $\$1,200,000 - \$880,000$ ), demonstrating adequate

liquidity — provided the financial statement is audited or reviewed and cash meets the \$25,000 minimum

C. No, because working capital of \$320,000 does not meet the ACLB's \$500,000 minimum for unrestricted commercial licenses

D. Yes, but only if the contractor provides a personal guarantee from each company officer to supplement the balance sheet

48. A contractor's cash flow analysis reveals the following monthly pattern: average monthly billings \$380,000; average monthly collections \$340,000; average monthly payroll \$210,000; average monthly material/subcontractor payments \$185,000; average monthly overhead \$55,000. What is the monthly cash flow surplus or deficit?

A. Surplus of \$380,000 because billings represent the contractor's monthly income

B. Surplus of \$40,000 because billings minus collections equals the monthly increase in accounts receivable

C. Deficit of \$110,000, calculated as collections received (\$340,000) minus total outflows ( $\$210,000 + \$185,000 + \$55,000 = \$450,000$ ) = negative \$110,000 per month — the contractor is collecting \$110,000 less per month than they are spending, creating a chronic cash drain that must be financed through working capital or credit

D. Surplus of \$130,000 because collections exceed payroll by \$130,000

49. A contractor's WIP report shows Project Sigma: revised contract \$1,600,000; estimated total cost \$1,360,000; costs to date \$952,000; billings to date \$980,000. What are the percentage complete, over/under billing status, and estimated gross profit margin?

A. 70% complete ( $\$952,000 \div \$1,360,000$ ), under-billed by \$140,000 (earned revenue of \$1,120,000 minus billings of \$980,000), with a 15% estimated gross profit margin ( $\$240,000 \div \$1,600,000$ )

B. 60% complete, over-billed by \$28,000, gross margin 10%

C. 70% complete, billings match earned revenue exactly, gross margin 18%

D. 75% complete, under-billed by \$140,000, gross margin 12%

50. A contractor's income statement shows: total contract revenue \$6,800,000; cost of construction \$5,780,000; G&A expenses \$612,000. A surety evaluating the contractor's bonding application wants to know the gross margin, G&A ratio, and net margin. What are these three metrics?

- A. Gross margin 10%, G&A ratio 5%, net margin 5%
- B. Gross margin 20%, G&A ratio 12%, net margin 8%
- C. Gross margin 12%, G&A ratio 7%, net margin 5%
- D. Gross margin 15% ( $\$1,020,000 \div \$6,800,000$ ), G&A ratio 9% ( $\$612,000 \div \$6,800,000$ ), net margin 6% ( $\$408,000 \div \$6,800,000$ ) — the 15% gross margin indicates solid project profitability, the 9% G&A ratio shows overhead is manageable, and the 6% net margin reflects healthy bottom-line performance

## Practice Exam 19: Answer Key and Explanations

1. **C** — Each general partner has apparent authority to bind the partnership in the ordinary course of business. The subcontractor had no way of knowing that Partner B's authority was internally restricted by an agreement among the partners. The partnership is likely obligated for the full \$120,000 of completed work, and Partners A and C would need to pursue their remedy against Partner B internally rather than against the innocent subcontractor.
2. **A** — The restricted commercial license caps individual project value at \$750,000. When the change order pushes the total contract value to \$775,000, the contractor exceeds this cap. The contractor should have either obtained an unrestricted license proactively or notified the ACLB when the change order crossed the threshold. Operating above the cap — even due to a change order — is a licensing violation.
3. **B** — While there is no specific minimum employment duration requirement, the ACLB may scrutinize a qualifying individual who has been with the company for only 3 months to ensure the arrangement is genuine. The Board wants to prevent "name lending" where a qualified individual allows an unqualified company to obtain a license without genuine involvement. The QI must have a real, ongoing role in the company's operations.
4. **D** — A simple residential storage building on a residential property is a residential accessory structure within the residential builder's scope. The \$22,000 value exceeds the \$20,000 licensing threshold, confirming that a licensed residential builder is the appropriate classification. The building's residential use, location on residential property, and standard residential construction methods all support this classification.
5. **C** — Collecting \$50,000 with no intention of performing the work may constitute criminal theft by deception or fraud — a criminal offense prosecuted separately from the ACLB disciplinary action and the homeowner's civil breach of contract claim. The contractor faces three separate tracks of legal exposure: criminal prosecution, ACLB license revocation, and civil liability for the homeowner's damages.
6. **A** — Overhead rate:  $\$336,000 \div \$2,400,000 = 14\%$ . Overhead allocation:  $\$1,150,000 \times 14\% = \$161,000$ . Total cost:  $\$1,311,000$ . Selling price for 5% margin:  $\$1,311,000 \div 0.95 = \$1,380,000$ . Profit:  $\$69,000 \div \$1,380,000 = 5.0\%$ . Dividing by  $(1 - \text{margin})$  ensures the profit equals exactly 5% of the selling price.

**7. D** — A personal check does not satisfy the bid security requirements specified in the bid documents (surety bond, cashier's check, or certified check). The lowest bid is non-responsive because it fails to comply with the mandatory bid security provisions. The contract should be awarded to the next lowest responsive and responsible bidder at \$3,450,000.

**8. B** — Total days:  $12,000 \div 280 = 42.86$  days. Total crew-hours:  $42.86 \times 8 \text{ hours} \times 3 \text{ workers} = 1,028.57$  hours. Labor cost:  $1,028.57 \times \$48.00 = \$49,371.43$ . The productivity rate (280 SF/day) represents the combined output of all three workers, so the total labor hours must reflect all three workers' time over the duration.

**9. C** — Misrepresenting the intent to self-perform work when the contractor actually plans to subcontract is a material misrepresentation on the bid form. The subcontractor listing requirement ensures transparency about who will actually perform the work. Falsely claiming self-performance undermines the bidding process integrity and may result in bid rejection or contract termination if discovered after award.

**10. A** — Force majeure clauses typically provide additional contract time for uncontrollable events like unusually severe weather, but do not provide additional monetary compensation. The financial risk of force majeure delays remains with the contractor. The 15-day time extension prevents the delay from triggering liquidated damages, but the \$35,000 in extended overhead is generally the contractor's cost to bear.

**11. D** — Self-performed concrete modifications:  $\$20,000 \times 1.15 = \$23,000$ . Subcontracted steel work:  $\$160,000 \times 1.08 = \$172,800$ . Total billable change order:  $\$23,000 + \$172,800 = \$195,800$ . The contract's different markup rates for self-performed and subcontracted work must be applied to each category separately based on who actually performs the work.

**12. B** — The environmental assessment — a contract document — stated no asbestos was present. The actual condition (asbestos present) differs materially from the representation. The differing site conditions clause protects the contractor when they rely on contract document representations that prove inaccurate. The contractor was not required to conduct their own independent environmental investigation beyond reviewing the provided documents.

**13. C** — The contractor should complete the 87 undisputed items promptly while formally disputing the 8 items not within the original contract scope. The written objection identifies the specific items, explains why they fall outside the contract, and requests either removal from the punch list or processing as a change order. This approach demonstrates good faith while protecting the contractor's right to additional compensation.

**14. A** — The contractor should escalate through a structured sequence: formal demand letter citing the contract provision, interest calculation if the contract provides for it, dispute resolution initiation, mechanics' lien filing if the deadline permits, and arbitration or litigation as a final resort. Each step creates increasing pressure while building the documented record needed to support the claim.

**15. C** — Both the subcontractor and the architect may share responsibility. The subcontractor may be liable if they applied the membrane on concrete they knew or should have known was too wet — experienced waterproofing installers should recognize excessive moisture conditions. The architect may be liable if the specifications failed to require moisture testing before membrane application. The specific facts determine the allocation.

**16. B** — On T&M contracts, daily documentation signed by both parties is the primary evidence supporting billings. The contractor bears the burden of proving that disputed hours were actually worked on authorized tasks. The 280 verified hours will likely be paid, while the 40 unverified hours will be contested. This illustrates why T&M billing requires rigorous daily documentation — including weekends when representatives may not be available.

**17. C** — Front-loading means inflating dollar values assigned to early-construction activities so the contractor receives disproportionately large payments early in the project. This creates risk for the owner: if the contractor defaults, the owner will have paid significantly more than the value of work in place, making project completion with a replacement contractor much more expensive. Architects review schedules of values specifically to detect front-loading.

**18. A** — The float consumption on 6 non-critical activities indicates that near-critical paths are approaching zero float and may become critical if any further delays occur. While the 3-day critical path advantage is positive, the depleted float on other paths means the schedule has less resilience to absorb future delays. The project manager should identify why float is being consumed and take preventive action.

**19. D** — The contract requires continuous HVAC service to occupied treatment rooms. Scheduling the 8-hour shutdown during off-hours (overnight or weekend) satisfies this requirement while completing the necessary ductwork connection. The additional labor costs for overtime work should be documented, and if the contract did not contemplate off-hours work requirements, a change order should be submitted.

**20. B** — Original critical path:  $6+12+16+8+5+14+10+12+4 = 87$  days. The change order adds 10 days to steel erection (now 26 days) and 6 days to metal decking (now 14 days). Both additions are on the critical path with finish-to-start relationships. Revised duration:  $6+12+26+14+5+14+10+12+4 = 103$  days. The project is extended by 16 days.

**21. C** — Under ACI 318, a set of three cylinders passes if the average equals or exceeds the specified strength AND no individual test falls more than 500 PSI below the specified strength. Average:  $(4,280 + 3,850 + 4,150) \div 3 = 4,093$  PSI (exceeds 4,000). Cylinder 2 at 3,850 is only 150 PSI below 4,000 — well within the 500 PSI tolerance. The set passes both criteria.

**22. A** — The general contractor has a duty to verify all billing accuracy before submitting to the owner. Passing through inflated subcontractor progress claims without independent verification constitutes a breach of the prime contract's payment provisions. If the pattern is found to be knowing or negligent, the GC may face fraud allegations in addition to repayment demands and contract default notices.

**23. D** — Without an "or equal" clause, only the architect can authorize a substitution. The contractor must submit an urgent RFI documenting the product discontinuation, the 16-week lead time, and the 4-week ceiling deadline. The 12-week gap requires immediate design team intervention to identify and approve an alternative sprinkler head before the ceiling installation deadline passes.

**24. B** — A new work-hour restriction imposed after contract execution constitutes a change to the contract conditions that was not included in the original bid. The contractor should respond in writing, document the schedule impact on critical path activities, and submit a change order

for the additional cost of rescheduling work and the time extension needed. The contractor priced the bid based on the work conditions stated in the bid documents.

**25. A** — The project manager should address the root cause (inexperienced masonry crew) directly with the subcontractor's management, demanding crew replacement or augmentation. Simultaneously, the PM should evaluate whether any portion of the overrun supports a change order and implement daily productivity tracking. This multi-pronged approach addresses the immediate problem while protecting the contractor's financial position.

**26. B** — CGL: Claim 1 = \$900,000 (within per-occurrence limit). Claim 2 = \$1,000,000 (per-occurrence cap). Claim 3: aggregate remaining = \$2,000,000 – \$900,000 – \$1,000,000 = \$100,000, so CGL pays \$100,000. Total CGL = \$2,000,000. Umbrella: Claim 2 excess = \$400,000. Claim 3 excess = \$500,000. Total umbrella = \$900,000. Total covered = \$2,900,000. All claims are fully covered.

**27. D** — A surety bond is a three-party agreement (principal/contractor, obligee/owner, surety) where the surety guarantees the contractor's performance. Unlike insurance — where the insurer absorbs the loss and does not seek reimbursement — the surety retains the right of indemnification against the contractor. This makes the bond fundamentally a credit instrument rather than a risk-transfer mechanism.

**28. C** — The EMR of 0.85 produces a workers' compensation premium approximately 15% lower than a competitor at EMR 1.0. This lower insurance cost translates directly to lower labor burden rates, which reduces the contractor's total project cost. The contractor can pass this savings into a more competitive bid price while maintaining the same profit margin — a tangible competitive advantage.

**29. A** — Under the Miller Act framework, second-tier claimants (sub-subcontractors and suppliers to subcontractors) must serve written notice on the general contractor within 90 days of the last date they furnished labor or materials. This notice must identify the amount claimed and the party for whom the materials were furnished. First-tier subcontractors with direct contracts do not need this additional notice.

**30. B** — The treatment provided — a neoprene elbow sleeve (non-rigid elastic support) and ice therapy — both fall within OSHA's definition of first aid. Non-rigid elastic wraps, non-rigid supports, and cold therapy are specifically listed as first aid treatments. The worker returned to full duty with no restrictions, no lost time, and no medical treatment beyond first aid. The case is not recordable despite the physician diagnosis.

**31. D** — Establishments with 20-249 employees in certain high-hazard industries — including construction (NAICS 236) — must electronically submit their 300A Annual Summary data through OSHA's Injury Tracking Application by March 2 of the following year. With 180 employees in construction, this employer falls within the electronic reporting requirement.

**32. C** — The wasp sting occurred on the jobsite during the course of employment, making it work-related. The hospital treatment — epinephrine, IV fluids, and steroids — clearly constitutes medical treatment beyond first aid. The case is recordable regardless of the worker's return to full duty the following day. The nature of the treatment, not the outcome, determines recordability.

**33. A** — Total recordable cases:  $2 + 3 + 7 + 1 = 13$ .  $TRIR = (13 \times 200,000) \div 250,000 = 10.4$ . DART cases (days away + restricted + fatalities):  $2 + 3 + 1 = 6$ .  $DART = (6 \times 200,000) \div 250,000 = 4.8$ . TRIR includes all recordable cases; DART includes only cases involving days away, restricted work, transfer, or death.

**34. D** — The FMLA requires restoration to the same or an equivalent position. An "equivalent" position must have equivalent pay, benefits, and working conditions. A position 60 miles away may fundamentally change the employee's commute and work situation, potentially failing the equivalency test. The employer should restore the carpenter to a position at or near the original jobsite.

**35. B** — Non-discretionary monthly bonuses must be prorated to the workweek and included in the regular rate. Weekly proration:  $\$180 \div 4.33 = \$41.57$ . Regular rate:  $(\$26.00 \times 46 + \$41.57) \div 46 = \$26.90$ . Overtime premium:  $\$26.90 \times 0.5 = \$13.45 \times 6 \text{ hours} = \$80.72$  additional premium. The bonus increases the effective overtime cost above the base rate calculation.

**36. C** — The workers' compensation exclusive remedy doctrine generally bars civil lawsuits for workplace injuries covered by workers' compensation, even when caused by employer negligence. This trade-off provides employees with no-fault benefits while protecting employers from unlimited tort liability. Limited exceptions exist for intentional harm or failure to carry workers' compensation insurance, but standard negligence claims are barred.

**37. A** — The claim may be viable if the layoffs disproportionately affected workers over 40 and the no-rehire policy perpetuates that disparate impact by permanently barring those workers from future employment. The employer would need to demonstrate the no-rehire policy serves a legitimate business purpose and no less discriminatory alternative exists. Facially neutral policies that have disparate impact on protected classes are subject to ADEA challenge.

**38. A** — Required total:  $\$24.00 + \$11.50 = \$35.50/\text{hour}$ . Actual total:  $\$26.50 \text{ wage} + \$7.00 \text{ health} + \$2.50 \text{ retirement} = \$36.00/\text{hour}$ . The total compensation of  $\$36.00$  exceeds the required  $\$35.50$  by  $\$0.50$ . The excess wage of  $\$2.50$  above the base rate supplements the fringe benefits, and the combined total meets the prevailing wage requirement. The contractor is compliant.

**39. B** — OSHA Section 11(c) prohibits retaliation against employees who report safety violations or refuse work they reasonably believe poses imminent danger. An unprotected trench deeper than 5 feet violates OSHA excavation standards and creates a recognized serious hazard. The worker's refusal was a protected safety activity, and the termination constitutes unlawful retaliation regardless of how the employer characterizes it.

**40. C** — Clinical depression treated through continuing outpatient care by a healthcare provider qualifies as a serious health condition under the FMLA. The employer has 55 employees (exceeding the 50-employee threshold) and the worker has 3 years of tenure (exceeding the 12-month eligibility requirement). The FMLA covers mental health conditions on equal footing with physical conditions when they involve continuing treatment.

**41. A** — Back pay:  $10 \text{ workers} \times 5 \text{ hours/week} \times \$48.00 \text{ overtime rate} \times 52 \text{ weeks} = \$124,800$ . The FLSA permits courts to award liquidated damages equal to the back pay amount, potentially doubling the exposure to  $\$249,600$ . Additionally, the employer is responsible for

the employees' attorney fees. Systematic overtime violations affecting multiple workers create compound liability that escalates rapidly.

**42. D** — Recovering alcoholics who are not currently using alcohol are protected under the ADA as individuals with a disability. The employer cannot refuse to hire a qualified candidate based solely on their history of alcoholism if the candidate can perform the essential job functions. The employer's subjective concern about the candidate's ability to "handle stress" does not constitute a legitimate, non-discriminatory basis for the hiring decision.

**43. B** — The employer had actual knowledge of the harassment through the report to the company president. The president's dismissal ("handle it yourself") demonstrates a complete failure to exercise reasonable care to prevent and correct harassment. The fact that the designated complaint recipient (HR director) was the harasser does not excuse the employer — the report to the president triggered the employer's obligation to investigate and act.

**44. C** — Under Davis-Bacon overtime rules, the overtime premium applies only to the cash wage rate. Straight time: 40 hours  $\times$  \$42.00 wage + \$19.00 fringe = \$2,440. Overtime: 10 hours  $\times$  \$63.00 wage (1.5  $\times$  \$42.00) + \$19.00 fringe = \$820. The fringe benefit continues at the straight-time rate for all hours — it is not multiplied by the overtime factor.

**45. A** — Steel erection premium:  $(\$210,000 \div \$100) \times \$28.00 \times 1.05 \text{ EMR} = \$61,740$ . Laborer premium already paid:  $(\$210,000 \div \$100) \times \$8.50 \times 1.05 = \$18,733$ . Additional premium:  $\$61,740 - \$18,733 = \$43,008$  approximately. The massive rate differential (\$28.00 vs. \$8.50) reflects the extreme risk difference between structural steel erection and general labor work.

**46. D** — Revised total cost: \$3,060,000. Revised profit:  $\$3,400,000 - \$3,060,000 = \$340,000$ . Revised % complete:  $\$1,445,000 \div \$3,060,000 = 47.2\%$ . Cumulative profit to recognize:  $47.2\% \times \$340,000 = \$160,654$ . Originally recognized:  $50\% \times \$510,000 = \$255,000$ . A downward adjustment of approximately \$94,346 is needed in Year 2 to correct the overstatement.

**47. B** — Net worth:  $\$2,800,000 - \$2,000,000 = \$800,000$ , well above the \$50,000 minimum. Working capital:  $\$1,200,000 - \$880,000 = \$320,000$ , demonstrating strong liquidity. The contractor meets the financial thresholds for an unrestricted commercial license, provided the statement is audited or reviewed (not compiled) and cash meets the \$25,000 minimum.

**48. C** — Cash inflows: \$340,000 collections. Cash outflows:  $\$210,000 + \$185,000 + \$55,000 = \$450,000$ . Monthly deficit:  $\$340,000 - \$450,000 = -\$110,000$ . The contractor is spending \$110,000 more per month than they collect, creating a chronic cash drain. The \$40,000 gap between billings (\$380,000) and collections (\$340,000) indicates a growing accounts receivable balance that must be addressed.

**49. A** — Percentage complete:  $\$952,000 \div \$1,360,000 = 70\%$ . Earned revenue:  $70\% \times \$1,600,000 = \$1,120,000$ . Billings: \$980,000. Under-billed by \$140,000 ( $\$1,120,000 - \$980,000$ ). Gross profit:  $\$1,600,000 - \$1,360,000 = \$240,000$ . Gross margin:  $\$240,000 \div \$1,600,000 = 15\%$ . The \$140,000 under-billing means the contractor has performed more work than invoiced.

**50. D** — Gross profit:  $\$6,800,000 - \$5,780,000 = \$1,020,000$ . Gross margin:  $\$1,020,000 \div \$6,800,000 = 15.0\%$ . G&A ratio:  $\$612,000 \div \$6,800,000 = 9.0\%$ . Net income:  $\$1,020,000 -$

\$612,000 = \$408,000. Net margin:  $\$408,000 \div \$6,800,000 = 6.0\%$ . All three metrics indicate healthy financial performance suitable for bonding approval.