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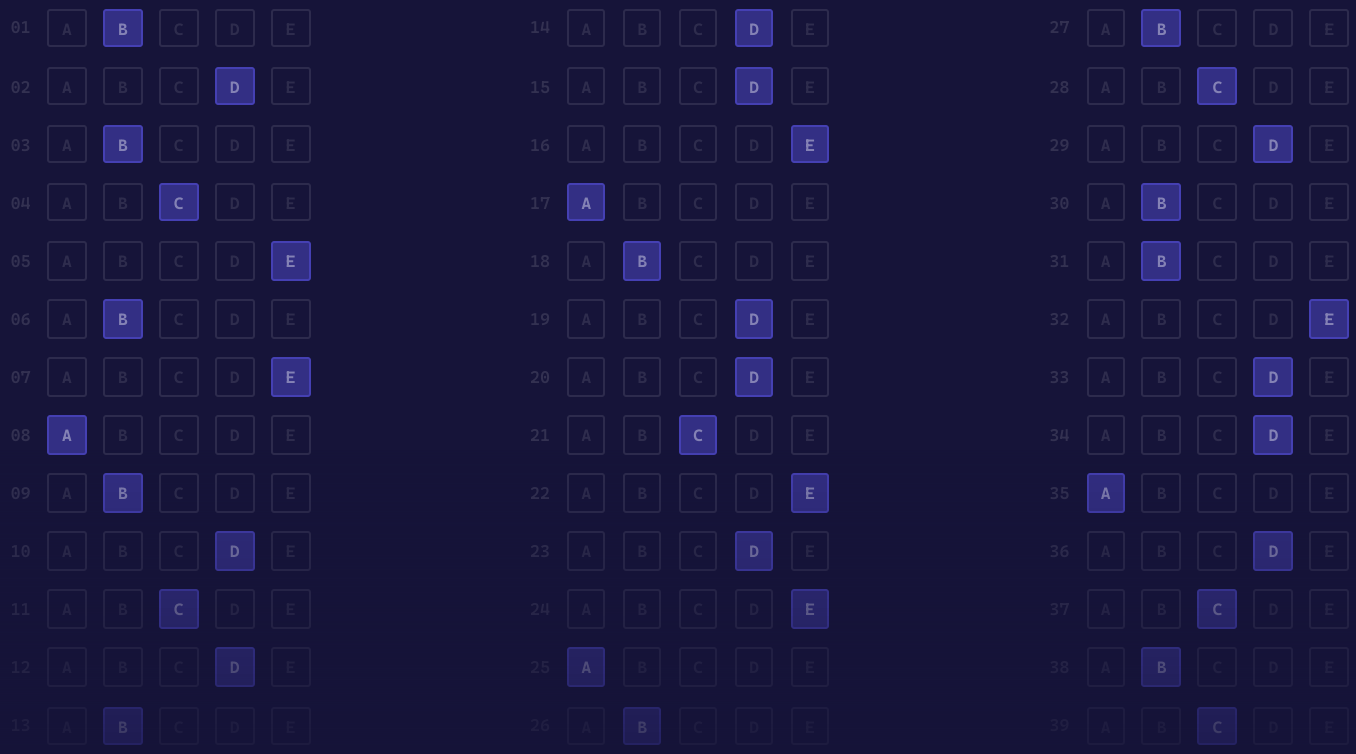


PRACTICE QUESTIONS

## ARIZONA REGISTRAR OF CONTRACTORS

# LA9QHZP9

AZ CR-70 Reinforcing Bar and Wire Mesh (Residential/Commercial)

| EDITION | QUESTIONS | FORMAT |
|---|---|---|
| Demo | 9 | Limited Edition PDF |

# Before you begin

## What this is

9 practice questions for ARIZONA REGISTRAR OF CONTRACTORS `LA9QHZP9`, each with its answer key and an explanation. Answer a question before you read its key — the explanation is worth more once you have committed.

## If something looks wrong

Send us three things and we will check it:

- the exam code, `LA9QHZP9`
- the question number
- the email address on your order

Write to **support@mometrix.net**. We reply within one business day.

**QUESTION 1** SINGLE CHOICE

Which ASTM specification covers deformed and plain carbon-steel bars for concrete reinforcement?

**A** **ASTM A615**

B ASTM A82

C ASTM A185

D ASTM A497

**ANSWER** **A**

**WHY** ASTM A615 is the standard specification for deformed and plain carbon-steel bars for concrete reinforcement. A82 covers cold-drawn steel wire, A185 covers plain welded wire reinforcement, and A497 covers deformed welded wire reinforcement.

**QUESTION 2** SINGLE CHOICE

According to ACI 117, what is the typical tolerance for the placement of flexural reinforcement (slabs and beams) measured from the form surface to the bar location?

A ±1/8 inch

**B** **±1/4 inch**

C ±1/2 inch

D ±1 inch

**ANSWER** **B**

**WHY** ACI 117 specifies a tolerance of ±1/4 inch for the depth (effective depth) of flexural members such as slabs and beams. This tolerance is required so that the design strength assumptions of the member remain valid.

**QUESTION 3** SINGLE CHOICE

For a residential concrete footing that is cast against and permanently exposed to earth, what is the minimum concrete cover required for reinforcing steel per ACI 318?

A 1-1/2 inches

B 2 inches

**C 3 inches**

D 4 inches

**ANSWER C**

**WHY** ACI 318 Table 20.5.1.3.1 requires a minimum concrete cover of 3 inches for reinforcement in footings (and other members) cast against and permanently exposed to earth.

**QUESTION 4** SINGLE CHOICE

A #5 Grade 60 reinforcing bar is used as a flexural tension bar in a beam with normal-weight concrete (f'c = 3,000 psi) and clear cover greater than 2d_b. Which ACI 318 simplified development length (l_d) value applies?

A l_d = 12 inches

**B l_d = 38 d_b**

C l_d = 50 d_b

D l_d = 60 d_b

**ANSWER B**

**WHY** For #7 and smaller bars, Grade 60, with clear spacing ≥ d_b, clear cover ≥ d_b, and stirrups not less than the code minimum, ACI 318 permits the simplified development length of l_d = 38 d_b. For #6 and larger, the simplified expression is l_d = 50 d_b, and 60 d_b applies when confinement/cover conditions are not satisfied.

**QUESTION 5** SINGLE CHOICE

In welded wire reinforcement designation, what does the designation "6 x 6 – W8.0 x W8.0" indicate?

A 8-inch spacing of #6 longitudinal and transverse wires

**B 6-inch spacing of W8.0 longitudinal and transverse wires**

C 6-inch bar spacing using #8 bars in both directions

D 8-inch spacing of W6 wires in each direction

**ANSWER B**

**WHY** WWR designations follow the form: spacing (in inches) of longitudinal wires x spacing of transverse wires – wire size in hundredths of a square inch (W-prefix indicates smooth wire). "6 x 6 – W8.0 x W8.0" therefore means 6-inch center-to-center spacing in each direction with W8.0 (0.080 $in^2$) smooth wires both ways.

**QUESTION 6** SINGLE CHOICE

Which of the following field conditions is the most likely cause of an inspector rejecting a delivered bundle of uncoated reinforcing bars?

A Bars stacked on treated wooden dunnage off the ground

**B Bars showing heavy, loose, flaky surface rust and measurable section loss**

C Bars bundled with identification tags showing grade, size, and heat number

D Bars stored separately by size and grade

**ANSWER B**

**WHY** Light surface oxidation is generally permitted on reinforcing steel, but heavy, flaky rust accompanied by measurable reduction in cross-sectional area (section loss) is grounds for rejection because it can reduce bond and effective bar area. The other options describe proper storage and identification practices.

**QUESTION 7** SINGLE CHOICE

Under OSHA 29 CFR 1926.701, what is the minimum required cover for protruding reinforcing steel (rebar) at exposed ends that pose an impalement hazard to workers?

A Mushroom-type plastic caps are sufficient at any height

B Bending the bar 90 degrees toward the formwork

**C Timber troughs, strong wooden covers, or approved protective caps that fully shield the ends**

D Painting the ends bright orange

**ANSWER C**

**WHY** OSHA 29 CFR 1926.701(b) requires that employees not be permitted to work above vertically protruding reinforcing steel unless it has been guarded to eliminate the impalement hazard. Acceptable methods include timber troughs, substantial wooden covers, or protective caps that fully cover the bar end. Mushroomed plastic caps are not considered adequate protection, and painting/bending are not recognized compliant methods.

**QUESTION 8** MULTIPLE CHOICE

Which of the following are commonly accepted supports used to maintain reinforcing bar cover and position in slabs and footings? (Choose two.)

**A Plastic or metal bar chairs (slab bolsters)**

**B Precast concrete dobies (blocks) tied to the bar**

C Loose bricks or pieces of broken masonry

D Wooden stakes driven into the subgrade

**ANSWER A · B**

**WHY** Industry-accepted supports for rebar include manufactured bar chairs/slab bolsters and pre-cast concrete dobies that are tied to the reinforcement. Loose bricks, broken masonry, and wooden stakes are not permitted because they may not provide stable, durable support and can compromise concrete quality or cover.

**QUESTION 9** MULTIPLE CHOICE

Which of the following statements regarding welded wire reinforcement (WWR) in residential slab-on-ground construction are correct? (Choose two.)

**A** **WWR should be placed in the upper third of the slab to control shrinkage cracking.**

B WWR may be placed by "hooking" or lifting it during concrete placement to position it correctly in the slab.

**C** **WWR must be supported on chairs or supports so it remains at the specified depth during placement.**

D WWR eliminates the need for any crack-control joints in the slab.

**ANSWER** **A · C**

**WHY** WWR in slab-on-ground construction is intended primarily to hold tightly together any random shrinkage cracks and must be located near the top of the slab — typically within the upper third — to perform that function. It must be properly supported on chairs or other supports. "Hooking" the mesh up during concrete placement is a widely discredited practice that does not reliably position the steel and is prohibited by ACI 302. WWR does not eliminate the need for properly designed and located crack-control (contraction) joints.