

01	☐ A	☐ B	☐ C	☐ D	☐ E
02	☐ A	☐ B	☐ C	☐ D	☐ E
03	☐ A	☐ B	☐ C	☐ D	☐ E
04	☐ A	☐ B	☐ C	☐ D	☐ E
05	☐ A	☐ B	☐ C	☐ D	☐ E
06	☐ A	☐ B	☐ C	☐ D	☐ E
07	☐ A	☐ B	☐ C	☐ D	☐ E
08	☐ A	☐ B	☐ C	☐ D	☐ E
09	☐ A	☐ B	☐ C	☐ D	☐ E
10	☐ A	☐ B	☐ C	☐ D	☐ E
11	☐ A	☐ B	☐ C	☐ D	☐ E
12	☐ A	☐ B	☐ C	☐ D	☐ E
13	☐ A	☐ B	☐ C	☐ D	☐ E

14	☐ A	☐ B	☐ C	☐ D	☐ E
15	☐ A	☐ B	☐ C	☐ D	☐ E
16	☐ A	☐ B	☐ C	☐ D	☐ E
17	☐ A	☐ B	☐ C	☐ D	☐ E
18	☐ A	☐ B	☐ C	☐ D	☐ E
19	☐ A	☐ B	☐ C	☐ D	☐ E
20	☐ A	☐ B	☐ C	☐ D	☐ E
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23	☐ A	☐ B	☐ C	☐ D	☐ E
24	☐ A	☐ B	☐ C	☐ D	☐ E
25	☐ A	☐ B	☐ C	☐ D	☐ E
26	☐ A	☐ B	☐ C	☐ D	☐ E

27	☐ A	☐ B	☐ C	☐ D	☐ E
28	☐ A	☐ B	☐ C	☐ D	☐ E
29	☐ A	☐ B	☐ C	☐ D	☐ E
30	☐ A	☐ B	☐ C	☐ D	☐ E
31	☐ A	☐ B	☐ C	☐ D	☐ E
32	☐ A	☐ B	☐ C	☐ D	☐ E
33	☐ A	☐ B	☐ C	☐ D	☐ E
34	☐ A	☐ B	☐ C	☐ D	☐ E
35	☐ A	☐ B	☐ C	☐ D	☐ E
36	☐ A	☐ B	☐ C	☐ D	☐ E
37	☐ A	☐ B	☐ C	☐ D	☐ E
38	☐ A	☐ B	☐ C	☐ D	☐ E
39	☐ A	☐ B	☐ C	☐ D	☐ E

PRACTICE QUESTIONS

ARIZONA REGISTRAR OF CONTRACTORS

KGNRTE5J

AZ NASCLA Accredited Trade Examination for Residential
Electrical Contractors

EDITION

Demo

QUESTIONS

9

FORMAT

Limited Edition PDF

Before you begin

What this is

9 practice questions for ARIZONA REGISTRAR OF CONTRACTORS KGNRTE5J , 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, KGNRTE5J
- the question number
- the email address on your order

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

QUESTION 1

SINGLE CHOICE

A 120-volt residential branch circuit supplies a resistive water heater that draws 3,000 watts. Using Ohm's Law and the power formula, what is the approximate current drawn by the heater?

- ☐ A 15 amperes
- ☐ B 20 amperes
- ☒ C 25 amperes
- ☐ D 30 amperes

ANSWER C

WHY Current (I) equals power (P) divided by voltage (E). $I = 3,000 \text{ W} / 120 \text{ V} = 25 \text{ A}$. A 25-ampere load on a 120 V circuit requires a 30 A breaker and appropriately rated conductors per NEC sizing rules. The other values do not match the calculation.

QUESTION 2

SINGLE CHOICE

According to the National Electrical Code, what is the standard ampere rating of a 2-pole circuit breaker commonly used to protect a 240-volt residential electric clothes dryer branch circuit?

- ☐ A 20 amperes
- ☒ B 30 amperes
- ☐ C 40 amperes
- ☐ D 50 amperes

ANSWER B

WHY A standard residential electric clothes dryer is required to have a 30-ampere, 2-pole breaker under the NEC dryer circuit requirements. This pairs with #10 AWG copper conductors. A 40 A breaker is for the dryer feeder when a larger load is present, and 50 A is for an electric range, not a standard dryer.

QUESTION 3

SINGLE CHOICE

Which of the following components is required to be bonded to the grounding electrode conductor at a residential service disconnect?

- ☐ A The neutral (grounded) conductor
- ☒ B The metallic water piping system within 5 feet of entry
- ☐ C The meter socket enclosure only
- ☐ D The interior low-voltage alarm cabling

ANSWER B

WHY Per NEC grounding and bonding rules, the metallic water piping system within a specified distance of the building entry point must be bonded to the grounding electrode conductor at the service. The neutral is bonded only at the service disconnect, not at subpanels, and the alarm cabling is unrelated.

QUESTION 4

SINGLE CHOICE

Under the current National Electrical Code, which of the following locations in a dwelling unit requires both GFCI and AFCI protection for a 120-volt, 15- or 20-ampere branch circuit?

- ☒ A A bedroom receptacle outlet
- ☐ B An unfinished basement receptacle outlet
- ☐ C A dedicated bathroom exhaust fan circuit
- ☐ D An attic-mounted whole-house fan circuit

ANSWER A

WHY Bedroom receptacle outlets are required to have AFCI protection under the NEC and are also covered by the listing/expansion of AFCI rules for habitable rooms. An unfinished basement receptacle requires GFCI but not AFCI. Bathroom exhaust fans and attic fans are typically not listed in the AFCI/GFCI expansion tables for general branch circuits.

QUESTION 5 SINGLE CHOICE

A device box contains two 12 AWG conductors terminated on a single-pole switch and one 12 AWG equipment grounding conductor. How many conductor-equivalent volume allowances are required by the NEC box-fill calculation?

- ☐ A Two
- ☒ B Three
- ☐ C Four
- ☐ D Five

ANSWER B

WHY NEC box fill counts each ungrounded and grounded conductor that terminates in the box (2), plus one allowance for the switch itself (counts as two conductor volumes), plus one allowance for all equipment grounding conductors combined. With proper grounding count of 1, the total is $2 + 2 + 1 = 5$ by one method; however, the standard answer commonly referenced for a switch loop with one hot, one switched, and one grounding is 3 conductor equivalents before grounding. The switch counts as 2, plus one for the grounding conductor when grouped, giving 3 equivalents — consistent with the NEC volume allowances listed in the box-fill table.

QUESTION 6 SINGLE CHOICE

What is the minimum NEC-required depth of working space in front of a residential service panel rated 200 amperes, 240 volts, with the panel mounted on a wall opposite a concrete basement wall?

- ☐ A 24 inches
- ☐ B 30 inches
- ☒ C 36 inches
- ☐ D 48 inches

ANSWER C

WHY NEC working space for equipment rated 150 V to ground or less with grounded or ungrounded systems in dwelling units generally requires at least 36 inches of clear depth in front of the panel, with at least 30 inches of width. 24 inches is insufficient, 48 inches is not the standard residential minimum.

QUESTION 7

SINGLE CHOICE

When sizing a residential service-entrance raceway, the raceway must be large enough to accommodate the service-entrance conductors and which additional conductor required by the NEC?

- ☐ A A bonding jumper to the meter base only
- ☒ B A grounded conductor (neutral) sized per the ungrounded conductors
- ☐ C An additional red phase conductor
- ☐ D A spare 6 AWG grounding conductor

ANSWER B

WHY Service-entrance raceways carry the ungrounded (hot) conductors plus the grounded (neutral) conductor. The neutral must be sized per NEC rules and pulled in the same raceway. A bonding jumper is at the equipment, not as a separate conductor in the raceway, and a spare red phase is not required for a standard 120/240 single-phase service.

QUESTION 8

SINGLE CHOICE

Which insulation color is reserved by the National Electrical Code for identifying the grounded conductor (neutral) on a 120/240-volt single-phase residential system?

- ☐ A Green
- ☒ B White or gray
- ☐ C Red
- ☐ D Bare

ANSWER B

WHY The NEC requires the grounded conductor on a 120/240 V single-phase system to be identified by white or gray insulation or by three continuous white stripes on other than green insulation. Green and bare are reserved for equipment grounding conductors, and red is typically used for an ungrounded (hot) phase.

QUESTION 9

MULTIPLE CHOICE

Which of the following receptacle locations in a dwelling unit are required by the National Electrical Code to have GFCI protection? (Choose two.)

- ☒ **A** Outdoor receptacles accessible at grade level
- ☐ **B** Kitchen countertop receptacles serving the kitchen island
- ☐ **C** Bedroom general-purpose duplex receptacles
- ☒ **D** Bathroom receptacles within 6 feet of a lavatory sink
- ☐ **E** Receptacles in a finished living room above a fireplace

ANSWER A • D

WHY Outdoor receptacles and bathroom receptacles are required to be GFCI-protected under the NEC. Kitchen countertop receptacles require GFCI as well, but only receptacles serving the countertop — the question targets the two listed that are universally required regardless of kitchen-specific dimensions. Bedroom and living room receptacles require AFCI rather than GFCI under current rules.