



Texas Residential Wireman

Practice test

April 6, 2026

Time limit: 240 minutes

Official exam page

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Answer key for this session (PDF):

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1. Per NEC 240.4(D), what is the maximum overcurrent protection for 12 AWG copper conductors?
 - A. 30A
 - B. 25A
 - C. 15A
 - D. 20A
2. In a dwelling unit, at least one receptacle outlet must be installed in each bathroom per NEC 210.52(D). This receptacle must be within how many feet of the outside edge of each lavatory basin?
 - A. 1 foot
 - B. 2 feet
 - C. 3 feet
 - D. 6 feet
3. Per NEC 250.122(B), if ungrounded conductors are increased in size above the required minimum, the EGC must be:
 - A. Remain at the Table 250.122 minimum size
 - B. Be increased proportionally in circular mil area
 - C. Be doubled in size
 - D. Be sized at 50% of the phase conductor
4. Arc-fault circuit interrupter (AFCI) protection is required by NEC 210.12 for 120V, 15 and 20 ampere branch circuits supplying outlets in which dwelling unit locations?
 - A. Bedrooms only
 - B. Garages and unfinished basements only
 - C. All habitable rooms, kitchens, laundry areas, hallways, closets, and similar areas
 - D. Kitchens and bathrooms only
5. NEC 352.30 requires PVC conduit (Schedule 40) to be supported within how many feet of each outlet box or conduit body?
 - A. 5 feet of each outlet box or conduit termination
 - B. 12 inches of each outlet box or conduit termination
 - C. 6 feet of each outlet box or conduit termination

D. 3 feet of each outlet box or conduit termination

6. Under the Texas Electricians Act, a Master Electrician license is required before an individual may obtain which of the following?
- A. Work as an apprentice on residential wiring
 - B. Obtain an Electrical Contractor license
 - C. Supervise journeyman electricians
 - D. Pass the journeyman exam
7. NEC 240.21 permits the 10-foot tap rule without overcurrent protection at the tap point. Which conditions must be met?
- A. Conductor ampacity equals the upstream OCPD rating
 - B. The tap connects only to a subpanel
 - C. The tap conductor is enclosed in EMT only
 - D. Length \leq 10 ft, enclosed in raceway, terminates in a single OCPD
8. Per NEC 210.19(A)(1), branch circuit conductors must have an ampacity not less than what percentage of the continuous load plus the noncontinuous load?
- A. 125% of the total load
 - B. 125% of continuous + 100% of noncontinuous load
 - C. 100% of the total load
 - D. 100% of continuous + 125% of noncontinuous load
9. NEC 250.36 permits high-impedance grounded neutral systems on 3-phase AC systems with a voltage of:
- A. 120V to 240V
 - B. 277V to 480V
 - C. 120V to 480V
 - D. 480V to 1000V
10. Per NEC 230.79, what is the minimum service disconnect rating for a one-family dwelling?
- A. 150A
 - B. 60A
 - C. 200A
 - D. 100A
11. What is the purpose of the system bonding jumper in a separately derived system per NEC 250.30?
- A. Ground the secondary of a transformer directly to earth
 - B. Connect the transformer case to the grounding electrode
 - C. Connect the neutral to the EGC establishing the ground reference
 - D. Provide overcurrent protection for the derived system
12. NEC 230.70(A)(1) requires the service disconnecting means to be installed at a readily accessible location. For a dwelling unit, where must this location be?
- A. Outside or inside nearest the point of service entrance
 - B. At any location within 50 feet of the meter
 - C. In the bathroom for safety
 - D. In the garage only
13. What is the minimum load per linear foot of show window lighting per NEC 220.14(G) in a commercial occupancy?
- A. 200 VA per linear foot
 - B. 150 VA per linear foot
 - C. 100 VA per linear foot
 - D. 250 VA per linear foot
14. NEC 220.60 permits only the larger of two loads that are unlikely to operate simultaneously to be used in a service calculation. What is this allowance called?
- A. Demand factor method
 - B. Standard calculation method
 - C. Noncoincident load allowance
 - D. Optional calculation method
15. NEC 210.52(B) requires how many 20-ampere small appliance branch circuits for a dwelling unit kitchen?
- A. One 20A circuit
 - B. Three 20A circuits
 - C. Two 20A circuits
 - D. One 15A circuit
16. What is the minimum ampere rating required for a branch circuit supplying a single receptacle outlet per NEC 210.21(B)(1)?
- A. Not less than the rating of the branch circuit
 - B. 80% of the branch circuit rating
 - C. Less than the branch circuit rating
 - D. 125% of the branch circuit rating
17. Per NEC 225.18, what is the minimum vertical clearance required for service-entrance conductors crossing a residential driveway?
- A. 10 feet
 - B. 8 feet
 - C. 18 feet
 - D. 12 feet

18. NEC 250.52 lists acceptable grounding electrodes. Which of the following is specifically prohibited as a grounding electrode?
- A. Metal underground water pipe
 - B. Concrete-encased electrode
 - C. Metal underground gas piping
 - D. Metal frame of a building
19. A commercial occupancy has 50 duplex receptacles. Using NEC 220.14(I), what is the calculated load per duplex receptacle?
- A. 360 VA
 - B. 90 VA
 - C. 120 VA
 - D. 180 VA
20. In Texas, vehicles used by an electrical contracting business must display which of the following?
- A. On all vehicles used in connection with the electrical contracting business
 - B. Only on vehicles used for commercial work
 - C. On vehicles parked at job sites only
 - D. Vehicle display is optional in Texas
21. A hallway in a dwelling unit that is 10 feet or more in length requires how many receptacle outlets per NEC 210.52(H)?
- A. No receptacle required in hallways
 - B. At least one receptacle outlet
 - C. One receptacle every 6 feet
 - D. GFCI receptacles only
22. In dwelling units, receptacle outlets in unfinished basements and in garages must be GFCI protected per NEC 210.8(A). Which of the following is an exception to the GFCI requirement for a single receptacle in a garage?
- A. Any receptacle on a 15-ampere circuit
 - B. GFCI protection is always required in garages with no exceptions
 - C. All garage receptacles are exempt if the garage is detached
 - D. A single receptacle not readily accessible supplied by a dedicated branch circuit for a cord-and-plug appliance
23. Per NEC 210.12(B), AFCI protection is required for branch circuits installed in existing dwelling units for which condition?
- A. When branch circuit wiring is modified, replaced, or extended
 - B. Only in bedrooms of existing dwellings
 - C. Never required in existing dwellings
 - D. Only for completely new wiring installations
24. NEC 210.52(E) requires outdoor receptacle outlets for dwelling units. A one-family dwelling must have at least one receptacle outlet accessible from grade level at which locations?
- A. Side yards only
 - B. Front and back at grade level
 - C. Front only
 - D. One outlet anywhere on the exterior
25. A 200A, 240V single-phase service is installed. What is the total VA capacity of this service?
- A. 32,000 VA
 - B. 40,000 VA
 - C. 48,000 VA
 - D. 24,000 VA
26. NEC 210.52(A)(3) specifies that floor receptacles are counted toward the required wall receptacle spacing only when they are within how many inches of the wall?
- A. 18 inches
 - B. 24 inches
 - C. 6 inches
 - D. 12 inches
27. Per NEC 250.119, how must insulated equipment grounding conductors be identified?
- A. Green, or green with one or more yellow stripes, or bare
 - B. White or gray insulation
 - C. Orange insulation
 - D. Red insulation
28. What demand factor does NEC Table 220.42 apply to commercial lighting loads?
- A. 75%
 - B. 50%
 - C. 100%
 - D. 125%
29. NEC 300.15 generally requires a box or conduit body wherever a conductor is:
- A. At intervals not exceeding 10 feet in any wiring method
 - B. At each splice point, outlet, switch, junction, or pull point
 - C. Only where conductors change direction more than 90 degrees
 - D. Only at each outlet — splices may be made inside conduit

30. What is the minimum journeyman experience required to qualify for the Texas Master Electrician examination?
- A. 3 years as a licensed journeyman
 - B. 2 years as a licensed journeyman
 - C. 5 years as a licensed journeyman
 - D. 4 years as a licensed journeyman
31. Per NEC 250.53(A)(2), if a single ground rod does not achieve 25 ohms or less resistance to ground, what must be done?
- A. Install a ground ring
 - B. Increase the GEC conductor size
 - C. Install a second electrode at least 6 feet away
 - D. Use a concrete-encased electrode instead
32. A Texas Master Electrician who allows their license to be used by an unlicensed person is subject to:
- A. Mandatory continuing education only
 - B. A verbal warning only
 - C. A civil fine with no license action
 - D. License suspension or revocation
33. NEC 240.6 lists standard ampere ratings for fuses and fixed-trip breakers. Which of the following is NOT a standard rating?
- A. 20A
 - B. 30A
 - C. 15A
 - D. 25A
34. Per NEC 358.30, EMT (Electrical Metallic Tubing) must be securely fastened within how many feet of each outlet box or fitting?
- A. 6 feet of each outlet box or fitting
 - B. 12 inches of each outlet box or fitting
 - C. 18 inches of each outlet box or fitting
 - D. 3 feet of each outlet box or fitting
35. A motor nameplate reads 460V, 3-phase, 25 HP. Per NEC Table 430.250 the FLC is 34A. What is the minimum branch circuit conductor ampacity?
- A. 42.5A
 - B. 45A
 - C. 40A
 - D. 34A
36. Under the Texas Electricians Act, which of the following work is exempt from the licensed electrician requirement?
- A. Homeowner performing work on their own single-family residence
 - B. HVAC contractor installing disconnect switches
 - C. Industrial plant maintenance by unlicensed employees
 - D. Commercial tenant finish-out work
37. Per NEC 250.104(A), the bonding jumper connecting interior metal water piping to the grounding system may be connected:
- A. At the water heater only
 - B. Within 5 feet of point of entrance
 - C. At the main panel only
 - D. At any accessible point on the interior piping
38. NEC 230.95 requires ground-fault protection of equipment (GFPE) for solidly grounded wye services exceeding 150V to ground but not over 600V phase-to-phase when rated:
- A. 2000A or more
 - B. 150A or more
 - C. 1000A or more
 - D. 800A or more
39. NEC 406.4(D) requires tamper-resistant receptacles in which dwelling unit locations?
- A. All 15 and 20A, 125V receptacles throughout the dwelling unit
 - B. Only GFCI-protected receptacles
 - C. Only in kitchens and bathrooms
 - D. Only in children's bedrooms
40. Per NEC 330.30, Type MC cable must be supported and secured at intervals not exceeding:
- A. 6 feet, and within 12 inches of every box or fitting
 - B. 10 feet, and within 3 feet of every box or fitting
 - C. 4.5 feet, and within 12 inches of every box
 - D. 3 feet, and within 6 inches of every box or fitting
41. For a 3-phase 4-wire wye system with 277V line-to-neutral, what is the line-to-line voltage?
- A. 208V
 - B. 480V
 - C. 277V
 - D. 347V
42. NEC 210.8 requires GFCI protection for receptacles in commercial bathrooms. This requirement applies to circuits rated:
- A. 15A and 20A circuits only
 - B. Any circuit within 6 feet of water
 - C. All 125V through 250V receptacles regardless of ampere rating
 - D. 20A circuits only

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43. In Texas, which state agency issues Master Electrician licenses?
- A. Texas Department of Licensing and Regulation (TDLR)
 - B. Texas Commission on Environmental Quality (TCEQ)
 - C. Texas Workforce Commission (TWC)
 - D. Texas State Board of Plumbing Examiners (TSBPE)
44. For the standard method of calculating a multifamily dwelling service per NEC 220.84, the demand factor from Table 220.84 is applied based on:
- A. Number of large appliances
 - B. Total connected load in kVA
 - C. Number of dwelling units
 - D. Total square footage
45. NEC 240.87 requires arc energy reduction for circuit breakers rated 1200A or higher. Which method is NOT an acceptable means?
- A. Zone-selective interlocking
 - B. Reducing conductor size to limit fault current
 - C. Energy-reducing maintenance switching
 - D. Differential relaying
46. Per NEC 210.52(l), a minimum of one receptacle outlet must be installed in each sleeping room of a dwelling unit and must be located within how many feet of the intended bed location?
- A. No specific distance required
 - B. 6 feet
 - C. 3 feet
 - D. 10 feet
47. A Texas electrical contractor is required to carry which types of insurance as a condition of licensure?
- A. Workers' compensation and general liability insurance
 - B. Automobile insurance only
 - C. Life insurance on all employees
 - D. Professional liability (E&O) insurance only
48. A balanced 3-phase delta system has a line current of 100A. What is the current flowing through each winding?
- A. 173.2A
 - B. 100A
 - C. 66.7A
 - D. 57.7A
49. According to NEC 210.52(C), countertop receptacles in a kitchen must be installed so no point along the countertop is more than how many inches from a receptacle?
- A. 36 inches
 - B. 12 inches
 - C. 24 inches
 - D. 18 inches
50. A residential electric range rated at 12 kW is connected to a 240V circuit. Using NEC Table 220.55, what demand load is used for service calculation?
- A. 14 kW
 - B. 8 kW
 - C. 10 kW
 - D. 12 kW
51. A commercial restaurant kitchen has 6 electric cooking units. Per NEC Table 220.56, what demand factor applies?
- A. 65%
 - B. 80%
 - C. 70%
 - D. 100%
52. NEC 250.24 requires the neutral conductor to be grounded at the service entrance. Where is this grounding connection made?
- A. At the load side of the service disconnect
 - B. At the main bonding jumper location in the service equipment
 - C. At the meter base only
 - D. At the first overcurrent device downstream
53. Per NEC 210.52(C)(3), a kitchen island countertop that is 24 inches or more long and 12 inches or more wide requires how many receptacle outlets?
- A. One GFCI receptacle per 12 inches
 - B. Two receptacle outlets
 - C. No receptacle required on islands
 - D. At least one receptacle outlet
54. According to NEC 376.22, the maximum fill percentage for wireways (wiring troughs) is:
- A. 80% of the interior cross-sectional area
 - B. 40% of the interior cross-sectional area
 - C. 20% of the interior cross-sectional area
 - D. 53% for a single conductor, 40% for multiple

55. Using the optional calculation method for a single-family dwelling per NEC 220.82, what percentage is applied to the remainder of all other loads after the first 10 kVA?
- A. 40%
 - B. 25%
 - C. 100%
 - D. 70%
56. A 480V, 3-phase, 4-wire commercial feeder supplies 150 kVA of balanced load. What is the full-load current per phase?
- A. 120A
 - B. 180A
 - C. 150A
 - D. 208A
57. Per NEC 300.5, what is the minimum burial depth for a branch circuit rated 120V or less, installed in rigid metal conduit (RMC), in a residential driveway?
- A. 6 inches
 - B. 24 inches
 - C. 12 inches
 - D. 18 inches
58. NEC 210.52(G) requires receptacle outlets in garages of dwelling units. How many receptacle outlets are required in an attached garage?
- A. At least one receptacle outlet
 - B. No receptacles required in garages
 - C. One receptacle on each wall
 - D. At least two receptacle outlets
59. NEC 210.52(F) requires laundry receptacle outlets. How many receptacle outlets must be installed for the laundry area?
- A. At least one receptacle outlet in the laundry area
 - B. No laundry receptacle required
 - C. Two receptacle outlets in the laundry area
 - D. One GFCI receptacle only
60. NEC 220.61 allows a neutral demand factor for 3-wire services. The 70% demand factor applies to the neutral load exceeding:
- A. 100A
 - B. 400A
 - C. 200A
 - D. 300A
61. NEC 215.2 requires feeder conductors to supply continuous loads. For a continuous load of 160A, what is the minimum required conductor ampacity?
- A. 200A
 - B. 160A
 - C. 225A
 - D. 175A
62. NEC 210.52(B)(2) permits the two required small appliance branch circuits to also supply which of the following outlets?
- A. Garbage disposal and dishwasher outlets
 - B. Any outdoor GFCI receptacle
 - C. A receptacle outlet for refrigeration equipment only
 - D. Any outlet in the dining room
63. NEC Article 334 covers Type NM cable. In which of the following locations is NM cable NOT permitted?
- A. Concealed in dry locations in residential construction
 - B. Attic spaces accessible only through a scuttle hole
 - C. Commercial buildings more than three floors above grade
 - D. One-family dwellings of any height
64. According to NEC 210.63, a 125V, 15 or 20 ampere receptacle outlet must be installed within how many feet of HVAC equipment for servicing purposes in a dwelling?
- A. 25 feet
 - B. 50 feet
 - C. 10 feet
 - D. 15 feet
65. NEC 210.52(A) requires receptacles in dwelling unit habitable rooms. Which room is specifically excluded from the general receptacle spacing requirement?
- A. Living rooms
 - B. Dining rooms
 - C. Bathrooms — covered by 210.52(D) separately
 - D. Kitchens
66. Per NEC 300.4, where must cables be protected when passing through holes in wood framing members less than 1.25 inches from the nearest edge?
- A. A steel plate or bushing at least 1/16 inch thick
 - B. A plastic nail plate of any thickness
 - C. Additional layers of NM cable sheathing
 - D. No protection required if the hole is drilled cleanly

67. Per NEC 210.52(A)(2), a wall space behind a door does not require a receptacle outlet when the door, fully opened, is within how many inches of an adjacent wall?
- A. 6 inches
 - B. 1 inch
 - C. 2 inches
 - D. 4 inches
68. The concrete-encased electrode per NEC 250.52(A)(3) must use bare copper conductor not smaller than:
- A. 1/0 AWG
 - B. 6 AWG
 - C. 4 AWG
 - D. 2 AWG
69. According to NEC 314.28, pull boxes for conductors 4 AWG or larger in a straight pull must have a length of at least:
- A. 12 times the trade size of the largest raceway entering the box
 - B. 4 times the trade size of the largest raceway entering the box
 - C. 8 times the trade size of the largest raceway entering the box
 - D. 6 times the trade size of the largest raceway entering the box
70. NEC 220.52 requires two 20A small appliance circuits for a dwelling. What load is assigned to these circuits for service calculation?
- A. 3,000 VA total before any demand factor
 - B. 1,500 VA each with no demand factor applied
 - C. 1,500 VA each, 3,000 VA total
 - D. 2,400 VA total
71. How many continuing education hours must a Texas Master Electrician complete per renewal period?
- A. 8 hours
 - B. 12 hours
 - C. 4 hours
 - D. 16 hours
72. A 2,400 sq ft dwelling requires a general lighting load calculated at 3 VA per square foot per NEC 220.12. What is the total general lighting load before demand factors?
- A. 7,200 VA
 - B. 9,600 VA
 - C. 12,000 VA
 - D. 4,800 VA
73. NEC 210.8(A) requires GFCI protection for 125V, 15 and 20 ampere receptacles in which dwelling unit locations?
- A. Bedrooms and living rooms only
 - B. All receptacles in the entire dwelling
 - C. Kitchens and bathrooms only
 - D. Bathrooms, garages, outdoors, kitchens near sinks, unfinished basements, and similar wet/damp locations
74. In a dwelling unit, receptacle outlets in habitable rooms must be installed so that no point along the floor line is more than how many feet from a receptacle?
- A. 6 feet
 - B. 12 feet
 - C. 4 feet
 - D. 8 feet
75. A 100A feeder requires an equipment grounding conductor. Per NEC Table 250.122, what is the minimum size copper EGC?
- A. 10 AWG
 - B. 8 AWG
 - C. 6 AWG
 - D. 12 AWG
76. Per NEC 210.11(C)(2), a single 20-ampere branch circuit is required for which location in a dwelling unit?
- A. Laundry area
 - B. Master bathroom
 - C. Garage
 - D. Kitchen
77. Per NEC Table 220.42, what demand factor applies to the first 3,000 VA of combined lighting and small appliance load in a dwelling unit service calculation?
- A. 100%
 - B. 25%
 - C. 35%
 - D. 70%
78. A 200A panel has 2/0 AWG copper service entrance conductors. Per NEC Table 250.66, what is the minimum copper GEC size?
- A. 8 AWG
 - B. 6 AWG
 - C. 2 AWG
 - D. 4 AWG

79. A 120/240V, single-phase, 3-wire service has a calculated load of 28,800 VA. What is the minimum service ampere rating needed?

- A. 120A
- B. 150A
- C. 100A
- D. 200A

80. A Type S fuse is designed to be non-tamperable. What prevents replacing it with a higher-rated fuse?

- A. Time-delay design
- B. Rejection feature requiring a matching adapter
- C. Physical size difference between ratings
- D. Color coding by ampere rating