



Assessment Blueprint

Building Construction Technology Basic



8192- Online Version
8193- Paper/Pencil Version
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General Assessment Information

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Test Type: This Residential Construction Academy certification assessment is a customized assessment for the Home Builders Institute. This assessment measures technical skills at the occupational level and includes items which gauge factual and theoretical knowledge. This assessment offers both a written and performance component and can be used at the secondary level and post-secondary level. This assessment can be delivered in an online or paper/pencil format.

Revision Team: The assessment content is based on input from secondary, post-secondary, and business/industry representatives from the state of Arkansas, Kentucky, Maryland, Nebraska, Missouri, Tennessee, and Washington.



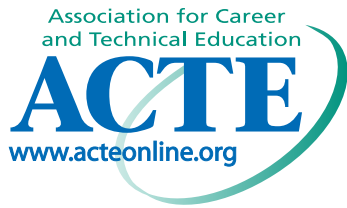
46.0401 – Building/Property
Maintenance



Career Cluster 1 - Architecture
and Construction



49-9071.00 – Maintenance and
Repair Workers, General



The Association for Career and Technical Education (ACTE), the leading professional organization for career and technical educators, commends all students who participate in career and technical education programs and choose to validate their educational attainment through rigorous technical assessments. In taking this assessment you demonstrate to your school, your parents and guardians, your future employers and yourself that you understand the concepts and knowledge needed to succeed in the workplace. Good Luck!



Home Builders Institute (HBI), an affiliate of the National Association of Home Builders (NAHB), is a national leader for career training in the building industry. HBI's educational materials are designed to be relevant in today's rapidly changing environment, bringing increased professionalism, competency and effectiveness to those entering the residential construction workforce.

HBI/NAHB assessments are based on national skill standards set by NAHB industry professionals and educators as are the materials contained in the Residential Construction Academy Series. Participants passing the assessments are eligible for certification through HBI/NAHB at the entry, semi-skilled or skilled levels.

Written Assessment

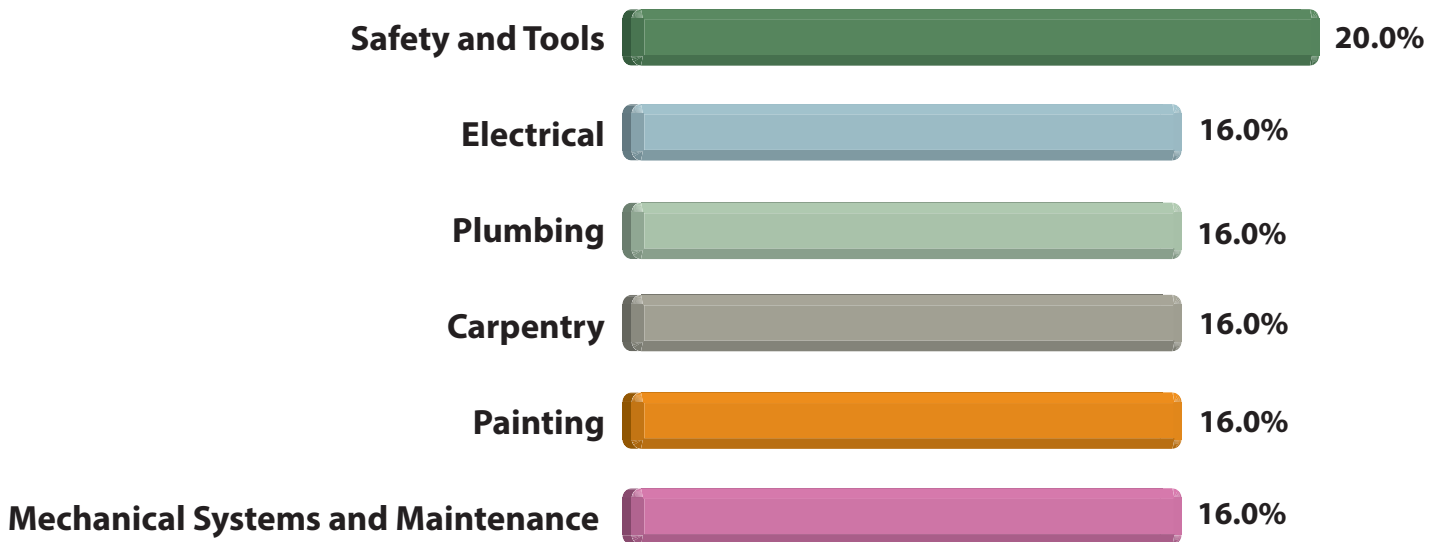
This written assessment consists of questions to measure an individual's factual theoretical knowledge.

Administration Time: 50 minutes

Number of Questions: 50

Number of Sessions: This assessment may be administered in one session.

Areas Covered



Specific Competencies and Skills Tested in This Assessment

Safety and Tools

- Tools, OSHA, Safety Data Sheets (SDS), Fall Protection Equipment, Safety, and Measurements

Electrical

- Concepts, Wiring, Safety, and Maintenance

Plumbing

- Maintenance, Tools, Materials, and Supplies

Carpentry

- Measurements, Maintenance, Fasteners, External Carpentry, Internal Carpentry, and Insulation

Painting

- Work Platforms, Ladders, Brushes, Finishing, Drywall, Paints, and Rollers

Mechanical Systems and Maintenance

- Elevators, HVAC, Furnaces, Gas Burners, Ovens, Dishwashers, Refrigerator, Dryers, Oil Burner, Small Engine, and Pesticides



Sample Questions

Which of these is an example of fall protection equipment?

- A. Ladder tie-ins
- B. Safety shoes
- C. Hard hats
- D. Safety harnesses

At the electrical outlet box containing the GFCI, the grounding pigtail is connected to which of these?

- A. Black ungrounded wire
- B. Receptacle's silver screw
- C. Receptacle's green grounding screw
- D. Neutral wire

Which of these tools is best to tighten valves and fixtures?

- A. Auger
- B. Adjustable wrench
- C. Vice grips
- D. Pipe wrench

Latex caulking should be cleaned up with which of these?

- A. Water
- B. Mineral spirits
- C. Acetone
- D. Turpentine

Which of these is best when painting a room?

- A. Paint the walls first, then the ceiling.
- B. Paint the ceiling first, then the doors.
- C. Apply ceiling paint using a zigzag or "W" pattern.
- D. Prime the walls first, then the ceiling.



Performance Assessment

This performance assessment allows individuals to demonstrate their acquired skills by completing actual jobs using the tools, materials, machines, and equipment related to the technical area.

Administration Time: 2 hours and 45 minutes

Number of Jobs: 5

Areas Covered:

31% Carpentry: Construct Frame

Selection and use of tools, cutting, techniques for assembly, accuracy of measurements, appearance of frame, and time to complete Job 1.

21% Plumbing: Sweat Piping

Use of tools, joining and soldering techniques, accuracy of measurements, piping support, leak testing, and time to complete Job 2.

17% Electricity: Rough Wiring

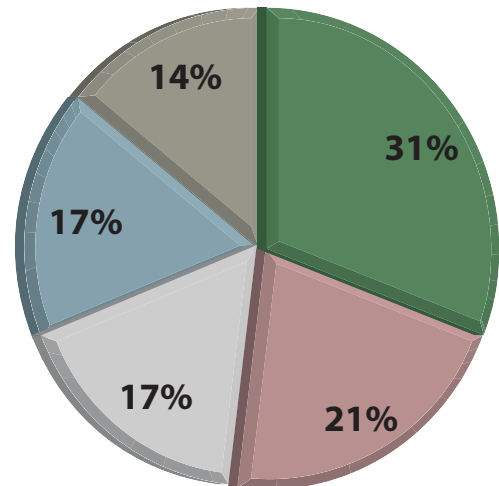
Mount electrical boxes, install nonmetallic cable, preparation of wires in box, and time to complete Job 3.

17% Dry Wall

Accuracy of measurements and cuts, installation of drywall, finishing techniques, and time to complete Job 4.

14% Electricity: Finish Wiring

Installation of switching device, installation of light fixture, testing of installation, and time to complete Job 5.



Sample Job

Electricity: Finish Wiring

Maximum Time: 15 minutes

Participant Activity: The test participant will use the rough wired frame with the drywall installed from the previous job, finish wiring the switch and light according to code, install cover plate, connect test leads and test, and install fixture to box.

