NOCTI
Partner Credential Blueprint

HBI®
Building Careers.
Changing Lives.

NAHB®
National Association
of Home Builders

House Wiring Basic

Codes: 9272 and 9271/ Version: 01

General Assessment Information

Blueprint Contents

Test Type: This 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 postsecondary 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 California, Florida, Maine, Minnesota, New York, South Carolina, Texas, Virginia, and Wisconsin.

CIP Code

46.0399 – Electrical and Power Transmission Installers, Other

Learning that works for America CTE™

Career Cluster - Architecture and Construction

O*NET™ in*it

47-2111.00 – Electricians

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!

The Home Builders Institute (HBI) trains skilled workers for the building industry. Through pre-apprenticeship training, certification programs and job placement services, HBI provides graduates with the skills and experience they need to build a career and change their lives. HBI assessments, in partnership with the National Association of Home Builders (NAHB), are based on national skills standards set by industry professionals and educators. Participants passing the assessments are eligible for certification through HBI/NAHB at the entry, semi-skilled, or skilled levels.

Selection of curricula and instructional materials chosen to support assessment achievement must be obtained from material that has been aligned to the Residential Construction National Skill Standards and approved by HBI. For a current listing, please go to http://www.hbi.org/curriculum/

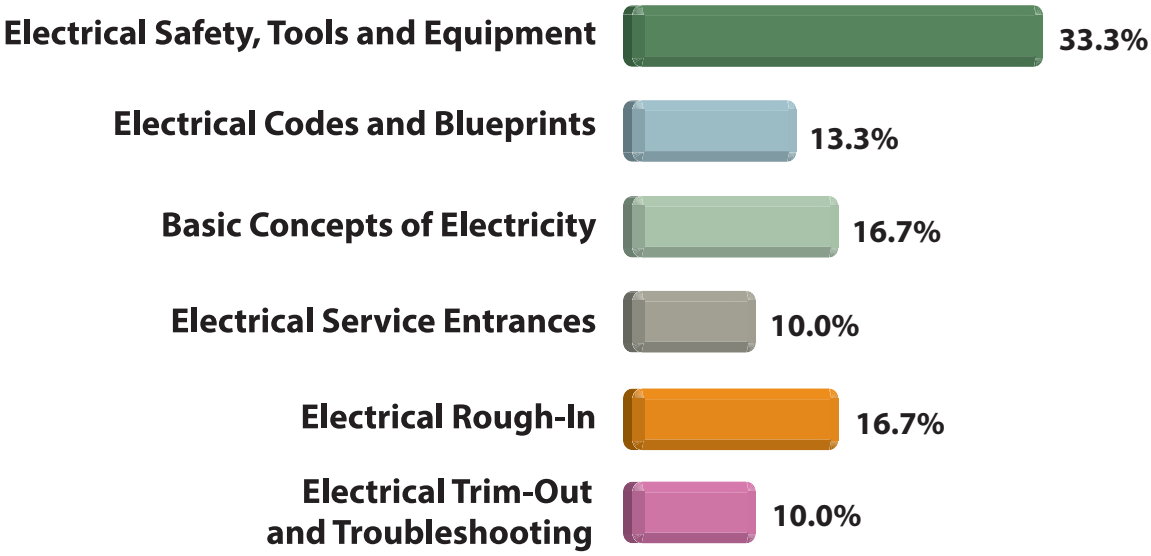
Visit www.hbi.org for more information.

Written Assessment

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

Administration Time: 50 minutes
Number of Questions: 60
Number of Sessions: This assessment may be administered in one session.

Areas Covered



Specific Competencies and Skills Tested in This Assessment

Electrical Safety, Tools and Equipment

- Electrical Safety, Tools, Power Supplies, Switches, Temporary Platforms, and Meters

Electrical Codes and Blueprints

- National Electric Code, Blueprints, Measurements, Symbols, and Math

Basic Concepts of Electricity

- AC/DC, Circuits, Capacitors, Transformers, Motors, Fixtures, and Ohms Law

Electrical Service Entrances

- Service Entrances, Calculations, and Installation

Electrical Rough-In

- Raceways, Wires, Cables, Boxes, Branch Circuits, Switch Circuits, and Special Circuits

Electrical Trim-Out and Troubleshooting

- Troubleshooting and Installation Fixtures

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Sample Questions

An ohmmeter connected across a deenergized circuit that has a reading of zero would most likely indicate which of these?

A. A short circuit
B. An open circuit
C. A high resistive circuit
D. A high amperage circuit

An electric clothes iron operating on 120 V has a resistance of 12Ω. How much current will it draw?

A. 8 A
B. 10 A
C. 12 A
D. 16 A

Which of these describes a short circuit?

A. A separate path has been established that bypasses the load.
B. An unintended path is established to ground.
C. A circuit has an extremely low amount of current flow.
D. The neutral or grounded conductor provides a return path to the power source.

Which of these statements is true?

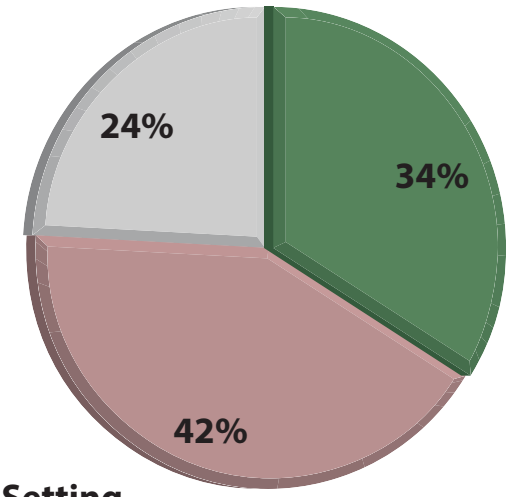
A. Most new houses are wired with nonmetallic boxes.
B. Metal boxes must be wired with Type NM cable.
C. "Old Work" boxes have no mounting "ears".
D. Most "old work" boxes are installed on studs.

Which of these apply to all 120 V, 15 A, and 20 A outlets in residential bedrooms?

A. Outlets must be GFCI protected.
B. Outlets must be AFCI protected.
C. Outlets must be of the duplex type.
D. Outlets must be TVSS protected.

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: 3 hours and 20 minutes
Number of Jobs: 3

Areas Covered:

34% Bend Conduit
Installation of boxes onto the wall, proper bending and cutting techniques, safety, and time to complete Job 1.

42% Switching and GFCI Receptacle in a Residential Setting
Schematic drawing, installation of wiring, installation of devices, finish, trim-out, operation, safety, and time to complete Job 2.

24% Install Two Smoke Alarms in a Commercial Setting
Installation of components, smoke alarms, functionality, safety, and time to complete Job 3.

Sample Job

Install Two Smoke Alarms in a Commercial Setting

Maximum Time: 1 hour

Participant Activity: The participant will install two smoke alarms in a commercial setting referring to the drawings provided, using MC 14-2 and 14-3 AWG, install two interconnected smoke alarms, use a separate circuit, and home run first smoke alarm; interconnect between the two smoke alarms.