

Residential and Commercial Service School

Pre-Attendance Work Sheet

The following requirements must be met for attendance.

1. Every attendee must have a completed answer sheet for the pre-attendance quiz on file with the training department two weeks before the scheduled class date.
2. Every attendee is required to bring the following service equipment to class:

1. volt-ohm meter
2. amp meter
3. digital manometer
4. manometer or gas pressure gauge
5. lazy-hand water pressure gauge with hose bibb connection

Pre-Attendance Quiz:

1. An amperage reading must be taken with the power:
 - (a) on
 - (b) off
2. An electric water heater's recovery rate is determined by the inlet water temperature, the thermostat set point, and the:
 - (a) wattage
 - (b) voltage
3. Proper polarity on an electrical circuit means the hot and neutral wires are not:
 - (a) grounded
 - (b) reversed
4. The ground path through a power vent water heater is checked using a multi-meter set to:
 - (a) Volts
 - (b) Amps
 - (c) Continuity

5. The maximum gas pressure that can be supplied to a water heater gas valve is ____ W.C.
- (a) 27.67" water column
 - (b) 7" water column
 - (c) 13.8" water column
6. The manifold gas pressure for all water heaters is:
- (a) the same
 - (b) different depending on fuel type
 - (c) regulated by the gas valve
 - (d) b and c
 - (e) a and b
7. Pressure readings in a power vent water heater vent are made using a _____ manometer.
- (a) slack tube
 - (b) digital
8. A water heater thermocouple generates:
- (a) AC current
 - (b) DC current
9. The flame sense rod on a power vent water heater works by using:
- (a) heat from the burner
 - (b) current flow

10. The “best way” to determine proper operation of a water heater element is to check:
- (a) volts
 - (b) resistance
 - (c) continuity
 - (d) amp draw
11. Most plumbing codes call for a maximum water main supply pressure of ____ .
- (a) 60psi
 - (b) 80psi
 - (c) 120 psi
12. A thermal expansion tank must be installed when a tank type water heater is used in a:
- (a) open system
 - (b) closed system
13. A thermal expansion tank must be sized to accept _____ of the water heater's volume.
- (a) 2%
 - (b) 10%
 - (c) 20%
14. A thermostatic mixing valve is required if the water heater's thermostat is set above:
- (a) 110° F.
 - (b) 120° F.
 - (c) 140° F.
15. The primary combustion products of burning natural or propane gas are heat, carbon dioxide and:
- (a) Water vapor
 - (b) Air

16. When a voltage reading is taken on a 240 Volt circuit to ground the meter will read:

- (a) Zero Volts
- (b) 240 Volts
- (c) 120 Volts
- (d) 480 Volts

17. When a voltage reading is taken in a 120 Volt circuit to ground the meter will read:

- (a) Zero Volts
- (b) 60 Volts
- (c) 120 Volts
- (d) 480 Volts

18. A manifold gas pressure reading and a supply gas pressure reading should be taken in what order:

- (a) manifold then supply
- (b) supply then manifold
- (c) manifold and supply simultaneously

19. A gas water heater draft spillage test is taken under the following conditions:

- (a) doors and windows open and exhaust fans on
- (b) doors and windows closed and exhaust fans off
- (c) doors and windows closed and exhaust fans on

20. A continuity reading on a pressure switch in a power vent water heater marked normally open and -1.07PF will read _____ when the blower is off.

- (a) 0 (no beep on audible)
- (b) 1 (beep on audible)