Unit 17 EWR

Heating systems

1. What are some factors in calculating heat loss? Building envelope, type and thickness of insulation, size of windows, brick or wood siding, where the house is located (degree days)
2. What are some advantages of electric heating over other types? Easy individual room control, safe (no fuels), clean and quiet, low maintenance
3. What is the main disadvantage of electric heating? Cost
4. What are the three main mounting types for electric heaters? Baseboard, wall mount, and floor mount
5. What are some uses for electric heating cables? Heating rooms, melting snow and ice
6. What are some other things that can be added to an electric furnace system? AC, humidity control, air circulation, air cleaning, and zone control
7. Are heating cables under a ceramic floor designed to heat a room? No. (Mostly to warm a floor)
8. What other components can be connected to a circuit for a central heating system? Equipment associated with the heating system. (humidifiers, air cleaners, etc)
9. What are the two requirements for the disconnect device on a central heating system? Must be within 9 m and within sight
10. When are Class II circuit conductors (low-voltage) permitted in the same raceway or box as the power conductors? Acceptable barrier
11. What is the minimum size OC device required for an electric furnace that is rated at 50 A on 240 V? 50x125%=62.5A (100A)
12. What is the maximum amperage for a thermostat rated 3000 W, 240 V? 12.5 A
13. Is a low-voltage relay for electric baseboard heaters typically single or double-pole? Double
14. Is a low-voltage thermostat for electric baseboard heaters typically single or double-pole? Single
15. What does Rule 62-118 say about single-pole, line-voltage thermostats? Cannot have a marked “off” position
16. What are the two hazards that result from mounting baseboard heaters below receptacles? Fire and shock due to melting cords
17. Why is it important to keep voltage drop to a minimum on an electric furnace circuit? Affects the output of the furnace
18. What percentage of an electric heater wattage is lost if a 240V heater is connected to a 208V circuit? 25% (Approximately)
19. What is the demand wattage for the service conductors in a residence with 25 kW of baseboard heaters and individual room control? 10 kW + (15 kW x 75%) = 21.25 kW
20. When using a two-wire cable with black and white conductors for a 240 V heater circuit, where must the white conductor be marked as ungrounded with tape or paint? Every point of access
21. Skip to end. (AC and heat pumps covered in another course)