

1. True or False: “Minimum Inside Temperatures” for various commercial building occupancies are defined in the IMC.
2. When 7.5 CFM per person of outside air is provided in a place of assembly, how much air per person must be exhausted simultaneously?
3. True or False: Class rooms in public schools require mechanical ventilation under all conditions.
4. True or False: Ventilation of dining areas may be accomplished by providing openable areas of outside doors and windows.
5. A shop area used for auto repair in a vocational school is 40 feet wide by 60 feet long. The minimum amount of exhaust ventilation required is 12,000 CFM, 1,800 CFM or 1,200 CFM?
6. True or False: Retail occupants may have natural ventilation provided by the area of outdoor openings equal to or greater than four (4) % of the floor area served.
7. True or False: Office buildings with openable windows require mechanical ventilation.
8. Give the code section which would require the minimum inside temperature be maintained at 3 feet above the floor within the occupied space.
9. Can return air spaces (plenums) be located in a required fire resistance rated assembly which is made of wood?
10. What is the minimum fire damper rating for a 1) a duct penetrating a fire barrier wall with less than a 3-hour fire resistance-rated assembly; 2) a duct penetrating a fire barrier wall with a 3-hour or greater fire-resistance-rated assembly?
11. What code section would you use to issue an order to submit heating and ventilation plans for a system which is being installed without prior approval?
12. What code section would you use to issue orders to provide ventilation for a toilet room having no window and one fixture?
13. A 50 feet by 20 feet office has 3 interior walls with 1 exterior wall having an openable 4 feet by 2 feet window. How much tempered outside air is required?
14. A factory, office or mercantile building or storage garage which is less than 25,000 cubic feet does not require that building plans be submitted for approval. Does this exception apply to the heating plans?
15. Consider a store building which has heating approved with an infiltration loss included in the heat loss calculations since this building had the required 4% openable windows and doors for outside air. The occupancy is changed to a restaurant with dining area in which there are 15 people per 1,000 sf, or roughly 110 occupants.
 - a. True or False: This is a new use for which heating and ventilation requirements are more stringent than those covering the previous use.
 - b. True or False: For the 110 person dining room above, 1,100 CFM of outside air is provided along with an equal amount of exhaust. With this amount of outside air, the room complies with the code.
16. What information is necessary to determine an assembly’s U-factor
 - a. Total area involved
 - b. Inside-Outside temperature differences
 - c. Description of the construction

17. True or False: Although the code does not directly address the need for tempered make-up air, the need is implied by way of application of the minimum indoor temperatures listed in Comm Table 64.0309 and design requirements stating that the temperature may not be less than that shown in the table measured 3 ft above the floor within the occupied space.
18. When an area requires tempered outside air, what procedure is used to determine the required amount?
 - a. Multiply heat loss by 0.014
 - b. Determine the number of air changes required and from this total volume divide by the constant 60 (60 = number of minutes in an hour)
 - c. Use Comm Table 64.0403 to determine ventilation requirements, and IMC 403.1
19. True or False: Consider a Type I commercial kitchen hood exhaust next to which is the toilet room which requires exhaust. To save expenses, the toilet room exhaust is connected to the kitchen exhaust since the kitchen exhaust exceeds the code requirement by 1,000 CFM. This satisfies code requirements.
20. True or False: Fire AND smoke dampers are required when a duct penetrates a required fire rated shaft enclosure, unless an exception can be met.
21. True or False: An eight-car showroom is connected to a repair garage which has 4% openable area, hot water convectors and no outside tempered air. There are no partitions between the showroom and the repair area. This satisfies code requirements.
22. What is the minimum clearance above the floor for infrared gas-fired radiant heaters in a public garage assuming they are not protected from motor vehicle impact?
 - a. 6 feet
 - b. 8 feet; or two feet higher above the floor than the height of the tallest vehicle
 - c. 10 feet
23. True or False: Smoke detection system control is required to be installed if the return air flow is greater than 2,000 cfm unless an exception can be met.
24. True or False: Clothes dryer exhaust ductwork has length limitations, requirements for metal ducts, and limitations involving the use of screws.
25. True or False: Ducts and transfer openings can penetrate fire walls.
26. True or False: Exit enclosure (ie. stairs) ventilation systems shall be independent of other building ventilation systems.
27. True or False: Air can be supplied to a room and then transferred to a corridor, where it can then be returned to the air handler and redistributed.