

## Sample Measurement and Mitigation Questions for Your Review

Questions 1-13 are Combined Measurement and Mitigation Course Questions

Questions 14-20 are Mitigation Course Only Questions

- Which are characteristics of radon:
  - is a gas, radioactive, can be detected by human senses
  - has no static charge, solid particle, does not react chemically
  - is man-made, does not chemically react, is a gas
  - not detected by human senses, naturally occurring, does not chemically react
- The nucleus of an atom consists of:
  - electrons and protons
  - neutrons and electrons
  - protons and neutrons
  - protons, neutrons and electrons
- How many additional lung cancers does the EPA predict would happen if 1000 non-smokers were exposed to 4 pCi/L of radon 75% of the time for 70 years?
  - 2
  - 4
  - 7
  - 29
- How many additional lung cancers does the EPA predict would happen if 1000 smokers were exposed to 4 pCi/L of radon 75% of the time for 70 years?
  - 4
  - 10
  - 62
  - 200
- What weather condition tends to typically cause the indoor basement radon concentration to suddenly rise the most?
  - heavy rain
  - increasing barometric pressure
  - freezing weather
  - light wind
- On an annual basis, which of the following is the greatest contributor of radon entry for a home in a northern climate?
  - stack effect due to indoor heating in the winter
  - stack effect due to indoor cooling in the summer
  - venting of a conventional furnace and a water heater
  - operation of a bathroom fan
- For short-term tests of less than 4 days in duration closed building conditions:
  - shall be maintained 12 hours prior to initiating the test and during the test
  - shall be maintained during the test
  - shall be maintained 4 hours prior to the test and during the test
  - shall be maintained 24 hours prior to the test and during the test
- According to the *Citizen's Guide*, which is an appropriate room in which to conduct a radon measurement?
  - closet
  - bedroom

- C) garage
  - D) bathroom
9. A continuous radon decay product measurement device that detects radon decay products by counting light flashes:
- A) a scintillation disk and a photomultiplier tube
  - B) a surface barrier detector
  - C) a pulsed ion chamber
  - D) a solid state silicon chip
10. Continuous radon decay product monitors are adversely affected by:
- A) humidity and dust
  - B) the last 12 to 24 hours of the measurement
  - C) background gamma radiation
  - D) elevation above sea level
11. Measurements which are taken to determine the relationship between decays per second and picoCuries per liter are:
- A) spiked measurements
  - B) blank measurements
  - C) calibration measurements
  - D) duplicate measurements
12. Which of the following same results from the previous question has the closest average to the actual averaged concentration of 10.0 pCi/L
- A) 14,12,13,15
  - B) 6,10,11,13
  - C) 8,12,13,13
  - D) 9,10,10,15
13. After a radon mitigation system has been installed and post-mitigation testing has been done between 24 hours and 30 days, radon mitigation is required to recommend retesting every:
- A) six months if premitigation radon concentrations were 10 pCi/L or more
  - B) six months if premitigation radon concentrations were 4 pCi/L or more but less than 10 pCi/L
  - C) one year
  - D) two years

#### Mitigation Only Questions

14. According to EPA standards, which of the following ASD discharges would not be acceptable:
- A. 12 feet above ground on an attached garage gable wall
  - B. into a bird house 12 feet from the house but only 10 feet above ground
  - C. at the overhang next to a bedroom window
  - D. above a garage roof next to a wall without windows
15. According to the post mitigation requirements of the Radon Mitigation Standards, which is not correct?
- A. contractor shall insure that a short-term measurement is made after mitigation system installation
  - B. contractor shall recommend that client obtain an independent post-mitigation radon measurement
  - C. contractor shall recommend that retesting occur at least every 12 months

- D. a short-term post-mitigation test shall be made between 24 hours and 30 days after installation and operation of the system
16. A house has 2,000 sq. ft. of living space with standard ceiling height. If the house has a natural air exchange rate of 1.5 ACH, what is the natural infiltration of air, expressed in CFM (Cubic Feet/Minute)?
- A. 400
  - B. 24,000
  - C. 50
  - D. 38.4
17. Post-mitigation testing of a sub-slab suction depressurization (SSD) system reflects no change in indoor radon. What action would be most important?
- A. check suction pipe suction
  - B. sniff block walls
  - C. test well water
  - D. measure indoor gamma
18. Immediately after completion of an ASD mitigation system, the RMS requires the RCP contractor to do the following except:
- A. Verify integrity of the fan mounting seals
  - B. Measure suction or flows in the system piping
  - C. Test pressure field extension at the farthest floor location from the suction hole
  - D. Test all natural draft combustion appliances for backdraft even if they were previously tested
19. Which of the following would not be a concern with basement pressurization?
- A. Backdrafting combustion appliances on the first floor
  - B. Backdrafting combustion appliances in the basement
  - C. Leakage from the first floor to the basement
  - D. Leakage from the basement to the outside
20. Which house exhaust fan would tend to depressurize the basement the most?
- A. Using the central vacuum
  - B. Running two bathroom fans
  - C. Using the dryer
  - D. Using a downdraft range exhaust