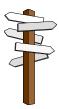
Certification Boulevard



Test Your Knowledge of Collections & Distribution – answer key

- 1. Which may be the most appropriate chemical to use in a wet scrubber treating high levels of hydrogen sulfide?
 - A. Sodium hydroxide
 - B. Sulfuric acid
 - C. Unchlorinated water
 - D. Polymer
- 2. Which best describes the natural slope of a pipe?
 - A. Inversion of stability
 - B. Angle of repose
 - C. Uphill travel
 - D. Coefficient friction
- 3. What device is used in a wastewater pipeline to prevent flow from traveling in both directions?
 - A. Plug valve
 - B. Siphon inducer
 - C. Flap gate
 - D. Pinch valve
- 4. Given the following data, how many cubic yards of backfill are needed to fill a trench?
 - 9.25 feet wide
 - 28 yards long
 - 6.5 feet deep
 - A. 62 yd^3
 - B. 257 yd^3
 - C. 959 yd^3
 - D. 187 yd^{3}

Cu. Yards = 9.25 feet wide x (28 yards long x 3 feet/yard) x 6.5 feet deep / 27 ft³ per yd³ = 187.06 yd^3

5. Waste leaking out of a collection system pipe, and into the environment, is called infiltration. *True or False*

Waste leaking out of a collection system pipe is called exfiltration

- 6. What type of machine is used to construct collection system pipelines when they are too difficult for trench excavations?
 - A. Pig
 - B. TV Device
 - C. Boring Machine
 - D. Backhoe Machine
- 7. Which type of sewer system contains both sanitary wastewater and storm water?
 - A. Domestic wastewater system
 - **B.** Combined sewer system
 - C. Separate collection system
 - D. Sewer system evaluation survey
- 8. Given the following data, what is the capacity of this wet well?
 - wet well diameter is 20 feet
 - bottom elevation of wet well is 72.5 feet
 - top elevation of wet well is 91.4 feet
 - A. 177,563 gallons
 - B. 23,738 ft³
 - C. $332,043 \text{ ft}^3$
 - D. 44,391 gallons

```
Liquid depth in wet well = 91.4 feet - 72.5 feet = 18.9 feet

Gallons Capacity = .785 	ext{ x diameter}^2 	ext{ x depth } 	ext{ x 7.48 gal per } 	ext{ft}^3

.785 	ext{ x 20 feet } 	ext{ x 20 feet } 	ext{ x 18.9 feet } 	ext{ x 7.48 gal per } 	ext{ft}^3 = 44,390.8 gallons
```

- 9. What is the minimum velocity in a sanitary sewer pipeline necessary to prevent settling of solids and debris?
 - A. 1 fps
 - B. 0.5 fps
 - **C.** 2 fps
 - D. 2 fpm
- 10. Which gases may be found in sewer collection systems?
 - A. Explosive gases
 - B. Hydrogen sulfide
 - C. Methane
 - D. All of the above