

## Test Your Knowledge of Water Supply and Other Topics

Thanks to Allen Gallina of A\*B Waterworks Inc. for allowing the use of these questions and answers.



**Roy Pelletier**

- For your job as a drinking water operator, the knowledge and skill required will depend to a large degree on the
  - size and shape of the water plant.
  - capacity of the water plant.
  - size and type of the water plant.
  - efficiency of the water plant.
- Regardless of who signs your paycheck, who do you actually work for?
  - The consumer/general public
  - The water management district
  - The Environmental Protection Agency
  - The Florida Department of Environmental Protection
- What is the main purpose of a water treatment plant?
  - To make the city commission look good.
  - To maintain high pressure in the distribution system for fire protection.
  - To sterilize the water supplied to the consumer.
  - To produce a safe and aesthetically pleasing drinking water for the consumer.
- Which item may biologically alter the quality of drinking water?
  - Color
  - Algae
  - Turbidity
  - Radioactive substances
- The color, turbidity, temperature, taste, and odor of drinking water are considered to be which type of characteristic?
  - Chemical
  - Biological
  - Radiological
  - Physical
- What is transpiration?
  - Breathing.
  - The method that water uses to percolate into the earth.
  - The process by which plants release water vapor.
  - Another word for preparation.
- What is short circuiting?
  - The line voltage of a pump.
  - The application of drinking water too close to a power line.
  - Water held in a process tank for a long period.
  - Water held in a process tank for a period that is not long enough.
- What is equal to one acre-foot?
  - 640 cubic yards
  - 5.3 square feet
  - 43,560 cubic feet
  - 10-inch pipe that is 1,200 feet long
- What is the volume in cubic feet of a water process tank with a diameter of 72 feet and a depth of 20 feet?
  - 180,275 cubic feet
  - 81,388 cubic feet
  - 8,144 cubic feet
  - 55,750 cubic feet
- What is the net weight of water in a tank that contains 750 gallons?
  - 6,255 lbs
  - 89.9 lbs
  - 5,610 lbs
  - 46,800 lbs

Answers on  
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### LOOKING FOR ANSWERS?

#### *Check the Archives*

Are you new to the water and wastewater field? Want to boost your knowledge about topics you'll face each day as a water/wastewater professional?

All past editions of Certification Boulevard through the year 2000 are available on the Florida Water Environment Association's website at [www.fwea.org](http://www.fwea.org). Click the "Site Map" button on the home page, then scroll down to the Certification Boulevard Archives, located below the Operations Research Committee.

### SEND US YOUR QUESTIONS

Readers are welcome to submit questions or exercises on water or wastewater treatment plant operations for publication in Certification Boulevard. Send your question (with the answer) or your exercise (with the solution) by e-mail to [roy.pelletier@cityoforlando.net](mailto:roy.pelletier@cityoforlando.net), or by mail to:

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## Certification Boulevard Answer Key

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1. c. Size and type of the water plant  
*Based on the size and type of the water plant, the Florida Department of Environmental Protection (FDEP) determines the level of operator certification, the required number of hours, and the required days per week the plant must be staffed.*
2. a. The consumer/general public  
*The consumer is the boss!*
3. d. To produce a safe and aesthetically pleasing drinking water for the consumer  
*Producing safe and aesthetically pleasing drinking water is the primary objective for any water treatment plant.*
4. b. Algae  
*The presence of algae may cause an unpleasant taste and odor to the drinking water.*
5. d. Physical  
*All physical characteristics of drinking water can be measured in their respective unit, like mg/l or degrees F or C.*
6. c. The process by which plants release water vapor  
*Transpiration is the process by which plants release water vapor back into the hydro-cycle.*
7. d. Water held in a process tank for a period that is not long enough  
*Short circuiting is when water is held in a process tank for a period not long enough to accomplish the required treatment.*
8. c. 43,560 cubic feet  
*One acre equals 43,560 square feet. One foot deep = 43,560 cubic feet, so 43,560 cubic feet is equal to one acre-foot.*
9. b. 81,388 cubic feet  
 $72 \times 72 \times 0.785 \times 20 \text{ ft}$   
 $= 81,388 \text{ cubic feet}$   
*OR*  
 $(72/2) \times (72/2) \times 3.14 \times 20 \text{ ft}$   
 $= 81,388 \text{ cubic feet}$
10. a. 6,255 lbs  
*One gallon of water weighs 8.34 lbs. 750 gallons  $\times$  8.34 lbs = 6,255 lbs*