

Basic Math – Conversions and Word Problems

Worksheet

1. Convert 750 ft³ of water to gallons.
2. Convert 50 gallons of water to pounds.
3. Convert 560 gpm to cfs.
4. Convert 4 lbs to ounces.
5. Convert 128 ft³ of water to weight in pounds.
6. Convert a pressure of 45 psi to feet of head.
7. Convert 12 psi to feet of water.
8. Convert 85 psi to feet of water.
9. It is 112 feet in elevation between the top of a reservoir and a faucet. What will the static pressure be at the faucet? (Assume the reservoir is full)
10. A reservoir is 20 feet deep. What will the pressure be at the bottom of the reservoir?
11. Find the flow in MGD when the flow is 34,000 gpd.
12. Find the flow in gpm when the total flow for the day is 65,000 gpd.
13. Find the flow in gpm when the flow is 1.3 cfs.
14. Find the flow in gpm when the flow is 0.25 cfs.

15. Find the flow in a 4-inch pipe when the velocity is 1.5 feet per second.
16. How long will it take to fill a 50 gallon hypochlorite tank if the flow rate is 5 gpm?
17. Find the detention time in hours for a treatment plant with the following characteristics:
- 1 sedimentation basin 295 feet long, 80 feet wide, and with a water depth of 11 feet
 - 12 filters, each 40 feet long, 30 feet wide, and with an average depth of 7 feet
 - A flow rate of 3.5 mgd
 - a. 18.5 hr
 - b. 19.4 hr
 - c. 26.9 hr
 - d. 75.4 hr
18. What should the flowmeter read in gal per min, if a 12-in diameter main is to be flushed at 5.0 fps?
- a. 1,764 gpm
 - b. 2,900 gpm
 - c. 3,600 gpm
 - d. 3,920 gpm
19. How many pounds of 65% calcium hypochlorite should be added to 50 gallons of water to make a solution that is 200 ppm chlorine?
20. How many gallons of 200 ppm chlorine solution water are required to disinfect a 6-inch diameter well that is 100 feet deep? The static water level is 20 feet below the top of the casing. (assume that a 200 ppm chlorine solution water is required to disinfect the water in the well).