

## Word problem involving the rate of filling or emptying a rectangular prism: Worksheet 8.2

Name ..... Date ..... Score .....

1. A swimming pool is 10m long, 8m wide and 4m deep. It is 60% full of water and drains at the rate of 2 kiloliter per minute. How long does it take to drain the swimming pool completely?
2. A water tank is the form of a rectangular prism. Its dimensions are 6 ft  $\times$  5ft  $\times$  3.6 ft. The tank is three-fifths full and drains at the rate of 1.2 cubic foot per minute. How long does it take for the tank to drain completely?
3. A water tank, having the shape of a rectangular prism of base 200 square centimeters, is being filled at the rate of 1 liter per minute. How long does it take to fill the tank if its height is 6 meters?
4. A wash basin in the shape of a rectangular prism. Its dimensions are 24 in  $\times$  18 in  $\times$  15 in. It is three-fourth full of water and drains at the rate of 144 cubic inches per minute. How long does it take for the basin to drain completely?
5. A petrol tank in the form a rectangular prism has the dimensions 1 m  $\times$  0.9 m  $\times$  0.6 m. It is 30% full. If the tank fills at the rate of 2 liter per minute, how long does it take to fill up the tank?
6. An aquarium tank in the form of a rectangular prism has the dimensions 48 cm  $\times$  42 cm  $\times$  36 cm. If it is 80% full and fills up at the rate of 3 liters per minute, how long does it take to fill up completely?
7. A rectangular fish tank 60 cm  $\times$  24 cm  $\times$  36 cm is  $\frac{1}{4}$  full of water. How long does it take to fill the tank completely, if it fills up at the rate of 3 liters per minute?
8. Carla is cleaning out her fish tank that is 5 feet long, 4 feet wide, and 3 feet deep. It is 60% full of water and drains at the rate of 2 cubic foot per minute. How long does it take to drain completely?
9. A bath tub is in the form of a rectangular prism. Its dimensions are 5ft  $\times$  4ft  $\times$  1.5ft. The bath tub is two-thirds full of water. If the bath tub drains at the rate of 1.5 cubic foot per minute, how long does it take for all the water to drain?
10. A bath tub in the shape of a rectangular prism is 20 feet long, 10 feet wide and 8 feet deep. It is 20% full and fills up at the rate of 5 cubic feet per minute. How long does it take to fill up the tub completely?



## Solutions: Worksheet 8.2

1. Time taken to drain the pool = 96 minutes
2. Time taken to drain the tank = 54 minutes
3. Time taken to fill the tank = 120 minutes
4. Time taken to drain the basin = 33.75 minutes
5. Time taken to fill the petrol tank = 189 minutes
6. Time taken to fill the aquarium = 4.84 minutes
7. Time taken to fill the tank = 12.96 minutes
8. Time taken to drain the tank = 18 minutes
9. Time taken to drain the tank = 13.33 minutes
10. Time taken to fill up the tub = 256 minutes

