

## Word problem involving the rate of filling or emptying a rectangular prism: Worksheet 8.3

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

1. A petrol tank in the form a rectangular prism has the dimensions  $1\text{ m} \times 0.75\text{ m} \times 0.5\text{ m}$ . It is 40% full. If the tank fills at the rate of 1 liter per minute, how long does it take to fill up the tank?
2. A rectangular fish tank  $60\text{ cm} \times 18\text{ cm} \times 36\text{ cm}$  is  $\frac{1}{5}$  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?
3. A water tank, having the shape of a rectangular prism of base 300 square centimeters, is being filled at the rate of 2 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  $24\text{ in} \times 18\text{ in} \times 12\text{ in}$ . 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 bath tub is in the form of a rectangular prism. Its dimensions are  $7\text{ ft} \times 4\text{ ft} \times 1.5\text{ ft}$ . The bath tub is two-thirds full of water. If the bath tub drains at the rate of 2 cubic foot per minute, how long does it take for all the water to drain?
6. An aquarium tank in the form of a rectangular prism has the dimensions  $48\text{ cm} \times 42\text{ cm} \times 27\text{ cm}$ . If it is 60% full and fills up at the rate of 3 liters per minute, how long does it take to fill up completely?
7. A water tank is the form of a rectangular prism. Its dimensions are  $8\text{ ft} \times 6\text{ ft} \times 2.4\text{ ft}$ . The tank is three-fourths full and drains at the rate of 1.2 cubic foot per minute. How long does it take for the tank to drain completely?
8. Carla is cleaning out her fish tank that is 7 feet long, 5 feet wide, and 3 feet deep. It is 50% full of water and drains at the rate of 1.5 cubic foot per minute. How long does it take to drain completely?
9. A swimming pool is 10m long, 9m wide and 6m deep. It is 80% full of water and drains at the rate of 2 kiloliter per minute. How long does it take to drain the swimming pool completely?
10. A bath tub in the shape of a rectangular prism is 21 feet long, 12 feet wide and 5 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 8.3

1. Time taken to fill up the tank = 225 minutes
2. Time taken to fill the tank = 10.37 minutes
3. Time taken to fill the tank = 90 minutes
4. Time taken to drain the basin = 27 minutes
5. Time taken to drain the tub = 14 minutes
6. Time taken to fill the aquarium = 7.26 minutes
7. Time taken to drain the tank = 72 minutes
8. Time taken to drain the tank = 35 minutes
9. Time taken to drain the pool = 216 minutes
10. Time taken to fill up the tub = 201.6 minutes

