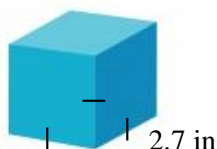## 5.MD.C.5 Volume of Cubes and Rectangular Prisms

5.MD.C.5: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

Give what is asked in each item and write your answers on the space provided.

1. Find the volume of each of the following cubes having the side length given below.

    a. $2\ m$ _____
    b. $2.6\ in$ _____
    c. $6\ cm$ _____

2. Find the volume and the surface area of the square prism shown below.

2.7 in

Answer:

3. How many cubic meter of water can a cuboidal tank with a length of 6 m, width of 7 m, and a height of 8 m can hold?

Answer:

4. Find the dimensions of a cubical oil tank that can hold 45 ft^3 of oil.

Answer:

5. The area of the base of a rectangular prism is 110 cm^2 and its height is 3 cm. Find the volume of the rectangular prism.

Answer:

6. Which tank can hold more gas? _____
 a. a cubical tank with side length of 5 ft   b. a cubical tank with dimension $2\ ft \times 3\ ft \times 15 ft$

7. Find the volume of a cabinet whose length is 8 ft, width is 7 ft, and height is 9 ft.

Answer:

8. An aquarium has a rectangular base that is 17 in. long and 19 in. wide. What should be the minimum height of the aquarium if the fish requires 646 in.^{3} of water and there are 6 fish in the aquarium?

Answer:

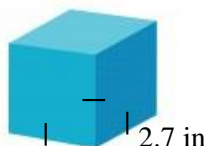## 5.MD.C.5 Volume of Cubes and Rectangular Prisms

Answer Key

5.MD.C.5: Relate volume to the operations of multiplication and addition and solve real world and mathematical problems involving volume.

Give what is asked in each item and write your answers on the space provided.

1. Find the volume of each of the following cubes having the side length given below.

    a. $2\ m$ _____ 8 m³ _____
    b. $2.6\ in$ _____ 17.576 in³ _____
    c. $6\ cm$ _____ 216 cm³ _____

2. Find the volume and the surface area of the square prism shown below.

2.7 in

Answer:
19.683 in³; 43.74 in²

3. How many cubic meter of water can a cuboidal tank with a length of 6 m, width of 7 m, and a height of 8 m can hold?

Answer: 336 m³

4. Find the dimensions of a cubical oil tank that can hold 45 ft³ of oil.

Answer: 3.57 ft × 3.57 ft × 3.57 ft

5. The area of the base of a rectangular prism is 110 cm² and its height is 3 cm. Find the volume of the rectangular prism.

Answer: 330 cm³

6. Which tank can hold more gas? _____ a. _____
 a. a cubical tank with side length of 5 ft   b. a cubical tank with dimension $2\ ft \times 3\ ft \times 15 ft$

7. Find the volume of a cabinet whose length is 8 ft, width is 7 ft, and height is 9 ft.

Answer:

504 ft³

8. An aquarium has a rectangular base that is 17 in. long and 19 in. wide. What should be the minimum height of the aquarium if the fish requires 646 in.³ of water and there are 6 fish in the aquarium?

Answer:

12 in