

5.MD.C.5 Finding the Volume

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 rectangular prisms with the given dimensions.

- a. $0.2\text{ m} \times 0.2\text{ m} \times 0.3\text{ m}$ _____
 b. $0.26\text{ m} \times 0.26\text{ m} \times 0.36\text{ m}$ _____
 c. $0.7\text{ m} \times 0.2\text{ m} \times 0.4\text{ m}$ _____

2. A cylindrical gas tank can hold 1962.5 m^3 of gas. The length of the gas tank is 25 m . Find the radius of the gas tank. (Hint: $V = 3.14r^2l$)

Answer:

3. A cubical water tank can hold 1331 m^3 of water. Find the dimensions of the tank.

Answer:

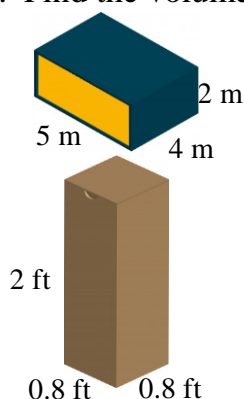
4. How many cups of liquid can be poured in a cubical bucket with a side length of 9 meters if each cup can hold 6 liters of liquid?

Answer:

5. The volume of a cube is 5 times the volume of a rectangular prism having a volume of 25 ft^3 . Find the side length of the cube.

Answer:

6. Find the volume of each of the following rectangular prisms.



Answer:

40 m^3

Answer:

1.28 ft^3

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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 rectangular prisms with the given dimensions.

- | | |
|--|-------------------------------|
| a. $0.2\text{ m} \times 0.2\text{ m} \times 0.3\text{ m}$ | <u>0.012 m³</u> |
| b. $0.26\text{ m} \times 0.26\text{ m} \times 0.36\text{ m}$ | <u>0.024336 m³</u> |
| c. $0.7\text{ m} \times 0.2\text{ m} \times 0.4\text{ m}$ | <u>0.056 m³</u> |

2. A cylindrical gas tank can hold 1962.5 m³ of gas. The length of the gas tank is 25 m. Find the radius of the gas tank. (Hint: $V = 3.14r^2l$)

Answer:

$$1962.5\text{ m}^3 = 3.14r^2(25\text{ m})$$

$$r = 5\text{ m}$$

3. A cubical water tank can hold 1331 m³ of water. Find the dimensions of the tank.

Answer:

$$11\text{ m} \times 11\text{ m} \times 11\text{ m}$$

4. How many cups of liquid can be poured in a cubical bucket with a side length of 9 meters if each cup can hold 6 liters of liquid?

Answer:

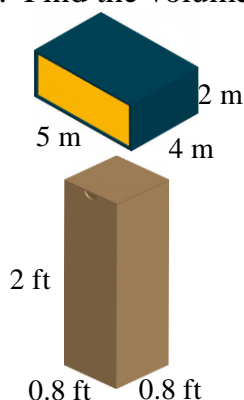
$$121,500\text{ cups}$$

5. The volume of a cube is 5 times the volume of a rectangular prism having a volume of 25 ft³. Find the side length of the cube.

Answer:

$$5\text{ ft}$$

6. Find the volume of each of the following rectangular prisms.



Answer:

$$40\text{ m}^3$$

Answer:

$$1.28\text{ ft}^3$$