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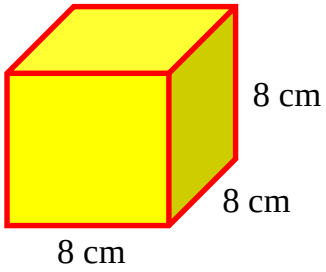
5.MD.C.3 Understand Perimeter, Area, and Volume Measurement

5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

1. Classify each type of unit measurement as linear, square, or cubic.
   a. length _____
   b. area _____
   c. volume _____
   d. area of the floor _____
   e. perimeter _____
   f. amount of juice in a carton _____

2. Find the surface area, perimeter (of each face) and volume of the cube. Write the answer using appropriate units.



Surface area =

Perimeter =

Volume =

3. What is the greatest possible area of a rectangle with a perimeter of 52 in?

Area =

4. True or False.
   _____ a. A square with a given perimeter has a fixed area.
   _____ b. A rectangle with a given perimeter can have more than one possible areas.

5. George bought a box of chocolates with a surface area of 14 in^2. Which unit should be used for the volume of the box?

Answer:

6. Refer to the image on the right to answer the questions below.

Write the appropriate units for the:
a. amount of water in the aquarium _____
b. lengths of the frames of each face of the aquarium _____
c. Area of the front face of the aquarium _____

7. Refer to the image on the right to answer the questions below.

Write the appropriate units for the:
a. length of the ribbon _____
b. area of the ribbon _____

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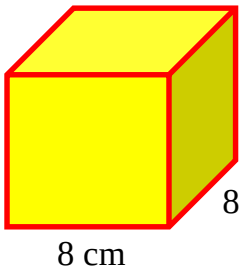
Answer Key

5.MD.C.3 Recognize volume as an attribute of solid figures and understand concepts of volume measurement.

1. Classify each type of unit measurement as linear, square, or cubic.
   a. length linear
   b. area square
   c. volume cubic
   d. area of the floor square
   e. perimeter linear
   f. amount of juice in a carton volume

2. Find the surface area, perimeter (of each face) and volume of the cube. Write the answer using appropriate units.



Surface area = 384 cm^2

Perimeter = 32 cm

Volume = 512 cm^3

3. What is the greatest possible area of a rectangle with a perimeter of 52 in?

Area = 169 in^2

4. True or False.
   True a. A square with a given perimeter has a fixed area.
   True b. A rectangle with a given perimeter can have more than one possible areas.

5. George bought a box of chocolates with a surface area of 14 in^2. Which unit should be used for the volume of the box?

Answer: cubic inches

6. Refer to the image on the right to answer the questions below.

Write the appropriate units for the: (answers may vary)
a. amount of water in the aquarium liters or gallons
b. lengths of the frames of each face of the aquarium centimeter or inches
c. area of the front face of the aquarium square inches

7. Refer to the image on the right to answer the questions below.

Write the appropriate units for the: (answers may vary)
a. length of the ribbon yard
b. area of the ribbon square yard