

Geometry: Volume, Area, Quadrilaterals

Name: Key # _____

Study Guide

Module 5

Date: _____

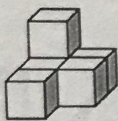
1 What is the volume of one unit cube?

1 cubic unit or $1u^3$ (What is the length? 1 unit)

2 Steve packed a box completely with unit cubes that each have a side length of 1 centimeter. The box has a volume of 36 cubic centimeters. How many unit cubes does Andy pack into the box?

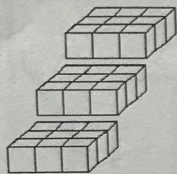
36

3 What is the volume of the shape below?



6 unit cubes

4 What is the volume of each layer? What is the total volume with all layers stacked together?



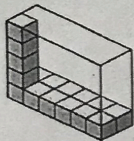
each layer: $9u^3$
all together: $27u^3$

5 Find the area of a rectangle with the following dimensions:

$$5\frac{4}{6} \text{ in.} \times 4\frac{3}{5} \text{ in.} \quad (5 \times 4) + (5 \times \frac{3}{5}) + (4 \times \frac{4}{6}) + (\frac{4}{6} \times \frac{3}{5})$$

$$20 + 3 + \frac{8}{3} + \frac{4}{10} = 25 + \frac{2}{3} + \frac{4}{10} =$$

6 How many more cubes are required to completely fill the rectangular prism below? What are the dimensions and total volume of the prism?



26 + 24 = 44 more

44 More to fill
6 x 2 x 5 (dimensions)
60 units cubed (total volume)

$$25 + \frac{20}{30} + \frac{12}{30} =$$

$$26\frac{2}{30}$$

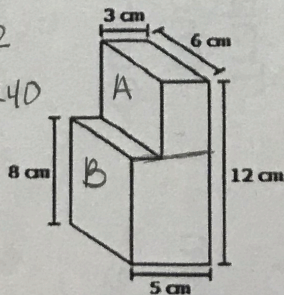
$$26\frac{1}{15}$$

7 Find the total volume of the shape.

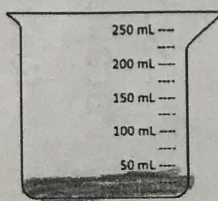
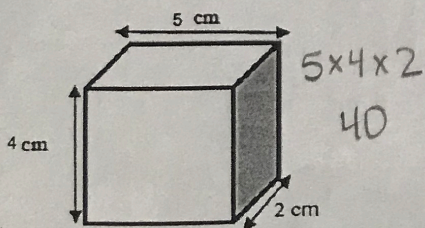
$$A = 3 \times 6 \times 4 = 18 \times 4 = 72$$

$$B = 5 \times 8 \times 6 = 40 \times 6 = 240$$

$$\text{Total Volume} = 312 u^3$$



8 The box below is filled with sand. Shade the beaker to show how many milliliters of sand is in the box.

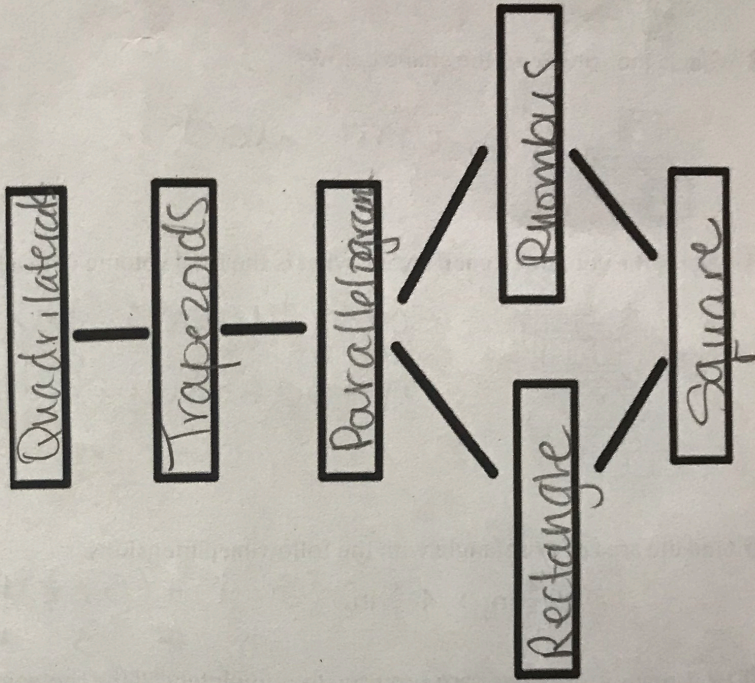


Write an "X" under all of the shapes that have the properties listed.

ALWAYS

Properties	Quadrilateral	Trapezoid	Parallelogram	Rectangle	Rhombus	Square	Kite
has exactly 4 sides	X	X	X	X	X	X	X
has at least 1 pair of parallel sides		X	X	X	X	X	
has 2 pair of parallel sides			X	X	X	X	
has 4 90° angles				X		X	
has 4 equal sides					X	X	X
opposite sides are equal lengths			X	X	X	X	
2 pair of adjacent sides with equal lengths					X	X	X

10. Complete the hierarchy flowchart using the word bank.



- Square
- Parallelogram
- Rectangle
- Trapezoid
- Rhombus
- Quadrilaterals