Name _____

Polygon Practice

In 1–11, write the number of sides and the number of angles that each polygon has. Then match each description to one of the polygons drawn below. Label the polygon with the exercise number of the description that matches the polygon.

1. regular decagon

_____

2. decagon that is not regular

_____

3. regular hexagon

_____

4. hexagon that is not regular

_____

5. regular octagon

_____

6. octagon that is not regular

_____

7. regular pentagon

_____

8. pentagon that is not regular

_____

9. regular quadrilateral

_____

10. quadrilateral that is not regular

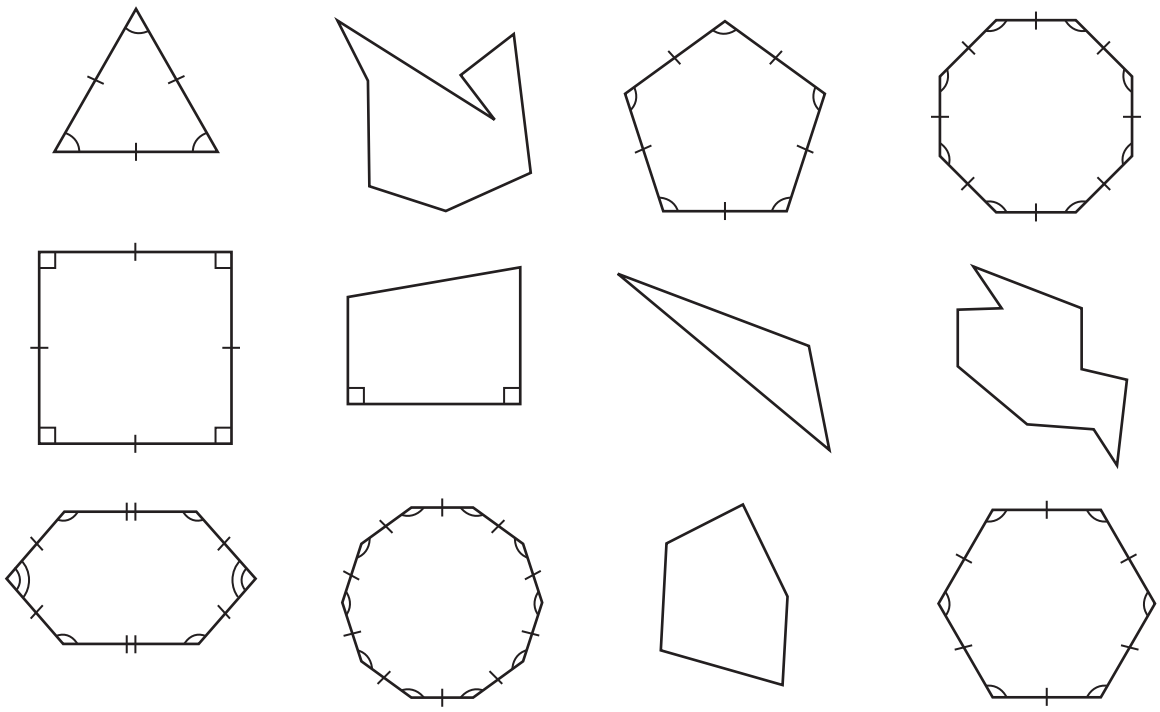
_____

11. regular triangle

_____

12. triangle that is not regular

_____



Name _____

A Triangular Challenge

Classify each triangle as *isosceles*, *scalene*, or *equilateral* and as *acute*, *right*, or *obtuse*. The sum of the angle measures in a triangle is always 180°. You can use a protractor to help you draw the triangle in the space provided.

Who Am I?	Draw Me

1. I have two congruent sides. I also have two congruent angles that measure 45° each.

I am a(n) _____ triangle.

---

2. I have three congruent sides. I also have three congruent angles.

I am a(n) _____ triangle.

---

3. I have no congruent sides. One of my angles has a measure of 100°.

I am a(n) _____ triangle.

---

4. Two of my angles measure 30° each. My two shorter sides are congruent.

I am a(n) _____ triangle.

---

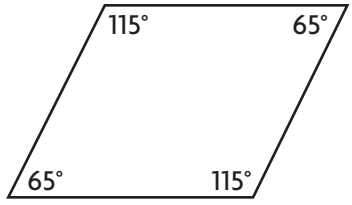
5. My 3 angles have measures of 38°, 52°, and 90°. My 3 sides are all different lengths.

I am a _____ triangle.

Name _____

A Quadrilateral Challenge

The sum of the angle measures in a quadrilateral is always 360°. You can use subtraction to find unknown angle measures. Each set of angle measures below represents three known angle measures in a quadrilateral. Write and solve an equation to find the unknown measure of the fourth angle.



$65° + 115° + 65° + 115° = 360°$

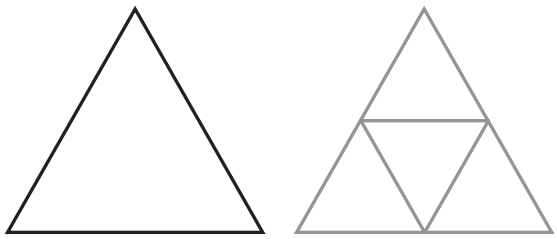
	Known Angle Measures	Unknown Angle Measure
1.	90° 90° 90°	Add the given angle measures. $90° + 90° + 90° = 270°$ Subtract the sum from 360°. $360° - 270° = 90°$
2.	112° 56° 84°	_____ _____
3.	120° 90° 90°	_____ _____
4.	55° 55° 125°	_____ _____
5.	135° 45° 135°	_____ _____
6.	90° 55° 135°	_____ _____
7.	85° 90° 130°	_____ _____

Name _____

Triangle Quick Draw Match-Up

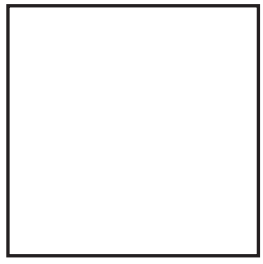
Divide each regular polygon into the given number of congruent triangles. The first one has been done for you.

1.



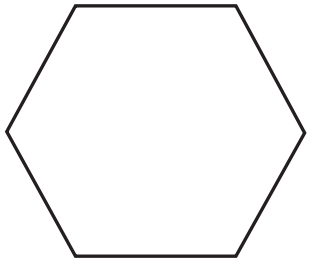
4 congruent triangles

2.



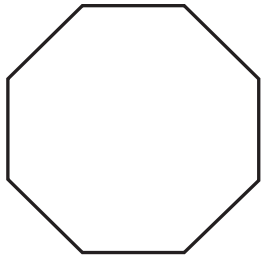
8 congruent triangles

3.



6 congruent triangles

4.



8 congruent triangles

5. Write Math How can you determine whether the triangles you drew inside each figure above are congruent?

_____

_____

_____

6. **Stretch Your Thinking** Is it possible to divide the triangle in Exercise 1 into 16 congruent triangles? **Explain.**

_____

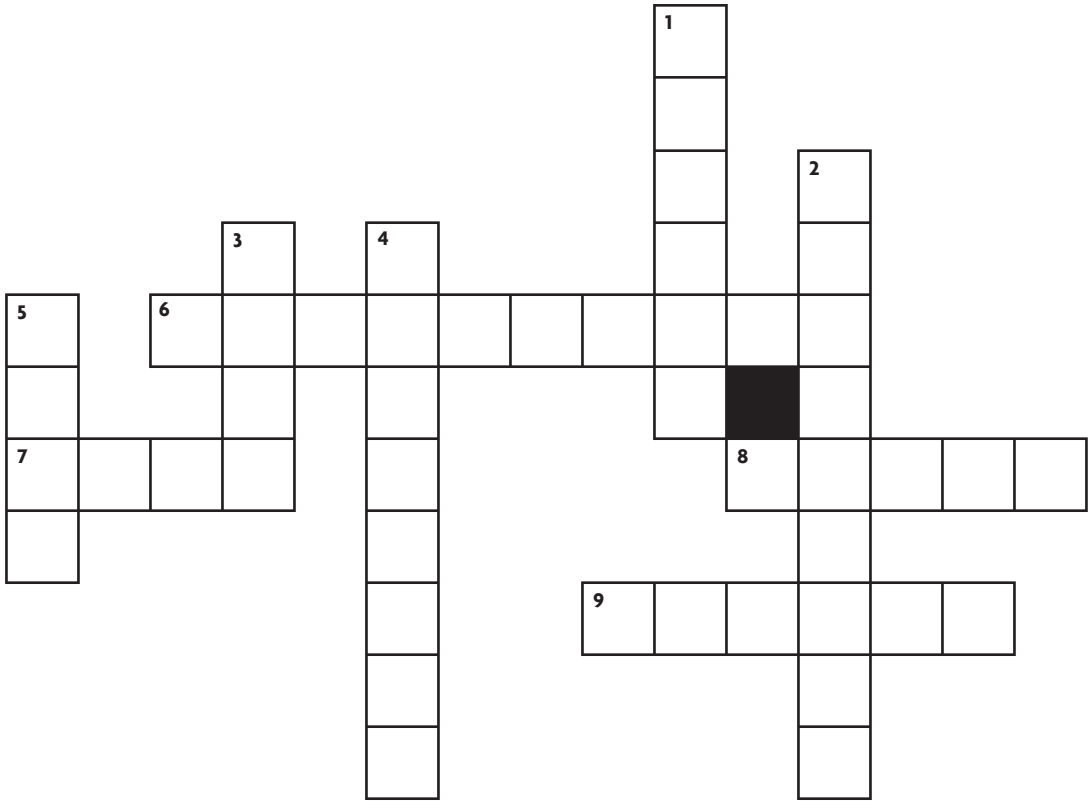
_____

_____

Name _____

In Fit Shape

Complete the crossword puzzle by filling in the correct term for each clue.



ACROSS

6. A solid figure with faces that are polygons.

7. This solid figure has three pairs of parallel faces, and all faces are congruent.

8. A solid figure that has two congruent polygons as bases and lateral faces that are rectangles.

9. A solid figure without any bases and with only one curved surface.

DOWN

1. A cube has six congruent faces that are all _____.

2. Polygons that have the same shape and size are _____.

3. A solid figure with one circular base and one curved surface.

4. A solid figure that has two circular bases and one curved surface.

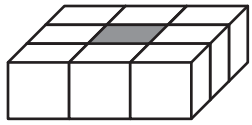
5. A flat surface of a solid figure.

Name _____

Unit Cubes

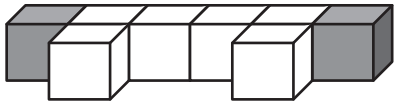
For each solid figure, write the fraction of unit cubes that are shaded. Write each fraction in simplest form. Assume that cubes you cannot see are not shaded.

1.



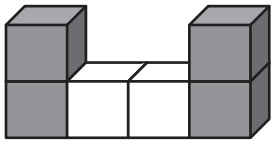
_____

2.



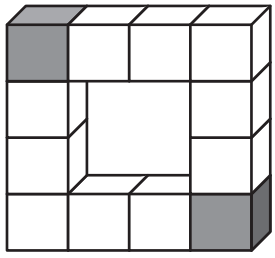
_____

3.



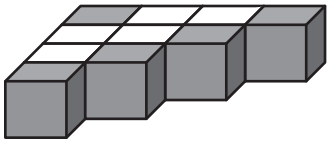
_____

4.



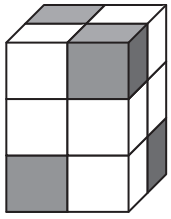
_____

5.



_____

6.



_____

7. Stretch Your Thinking In the fraction you wrote for Exercise 1, what does the denominator represent?

_____

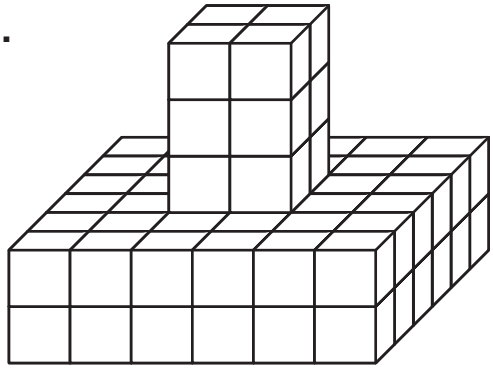
_____

Name _____

Volume of Irregular Figures

Use the unit given. Find the volume.

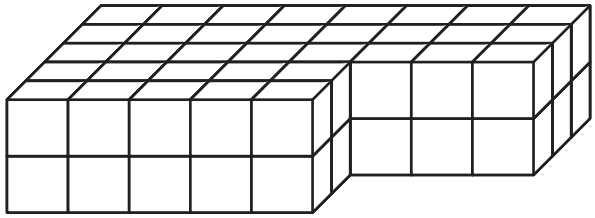
1.



Each cube = 1 cu cm

Volume = _____

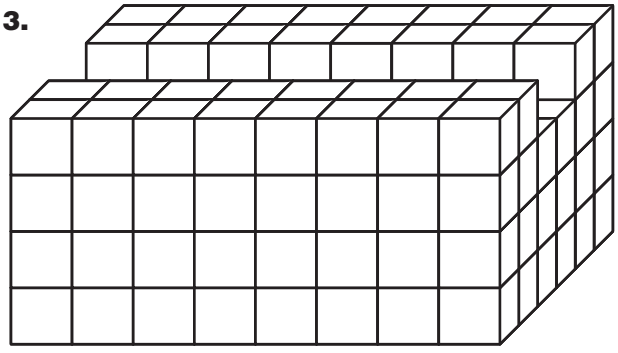
2.



Each cube = 1 cu in.

Volume = _____

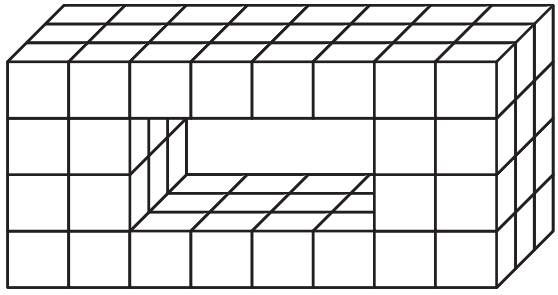
3.



Each cube = 1 cu ft

Volume = _____

4.



Each cube = 1 cu yd

Volume = _____

5. Write Math Explain how you found the volume of the figure in Exercise 4.

_____

_____

_____

_____

_____

_____

Name _____

What Will Fit?

A cubic centimeter is 1 cm long on each edge. A cubic decimeter is 10 cm long on each edge. A cubic meter is 1 m long on each edge.

Estimate the smallest unit cube that will hold each object. Choose from a cubic centimeter, a cubic decimeter, and a cubic meter.

1. a grain of rice _____
2. an orange _____
3. a basketball _____
4. a pebble _____
5. a cell phone _____
6. a textbook _____
7. a key _____
8. a backpack _____
9. a paper clip _____
10. a raisin _____
11. an iron _____
12. a can of paint _____
13. a crayon _____
14. a staple _____
15. a stick of gum _____
16. **Stretch Your Thinking** How many cubic centimeters do you need to fill a cubic decimeter? How many cubic centimeters do you need to fill a cubic meter?

_____

_____

Name _____

Unknown Dimensions

Find the unknown dimensions. Use whole numbers only.

1. A rectangular prism has a volume of 96 ft^3. The area of the base is 24 ft^2. What is the height of the prism?

_____

2. A rectangular prism has a volume of 729 ft^3. The length, width, and height are all the same. What is the length of each side of the prism?

_____

3. A rectangular prism has a volume of 175 in^3. The height of the prism is 7 in. The base is a square. What is the length of a side of the base?

_____

4. A rectangular prism has a volume of 144 cm^3. The base is a square with a length of 4 cm. What is the height of the prism?

_____

5. A rectangular prism has a volume of 189 cm^3. The height of the prism is 3 cm. What are the dimensions of the base?

length = _____

width = _____

6. A rectangular prism has a volume of 160 cm^3. The height of the prism is 5 cm. The length is twice the width. What are the dimensions of the base?

length = _____

width = _____

7. A rectangular prism has a volume of 384 cm^3. The width is twice the height, and the length is three times the height. What are the dimensions of the prism?

length = _____

width = _____

height = _____

8. A rectangular prism has a volume of 432 in^3. The height of the prism is 9 in. What are the dimensions of the base?

length = _____

width = _____

9. Stretch Your Thinking For Exercise 8, what are other possible dimensions for the base?

_____

_____

Name _____

What Is the Volume?

**The dimensions of a rectangular prism are given.
Find the volume of the prism.**

1. length = 2 feet, width = 15 inches, height = 8 inches

V = _____

2. length = 4 yards, width = 7 feet, height = 3 feet

V = _____

3. length = 9 centimeters, width = 35 millimeters, height = 7 centimeters

V = _____

4. length = 1 yard, width = 2 feet, height = 18 inches

V = _____

5. length = 1 meter, width = 3 decimeters, height = 8 centimeters

V = _____

6. length = 9 feet, width = 2 yards, height = 36 inches

V = _____

7. Stretch Your Thinking What cubic unit did you use in your answer to Exercise 6? Express the volume in a different cubic unit.

_____

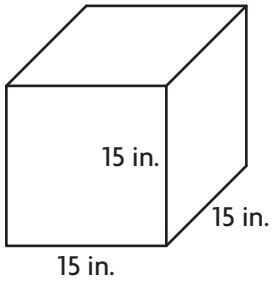
_____

Name _____

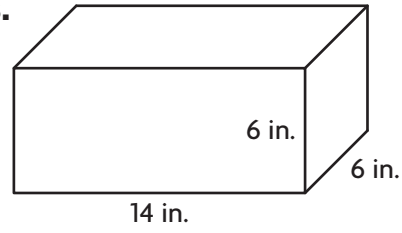
The Gift of Volume

Leah and Wayne are sending presents in the mail. Boxes A, B, and C are shipping boxes. Find the volume of each shipping box. Then solve each problem below.

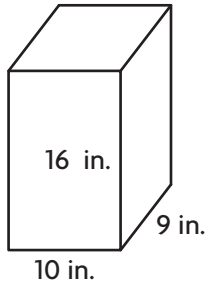
A.



B.

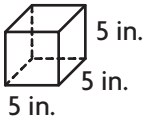


C.



Volume of A: _____ Volume of B: _____ Volume of C: _____

1.

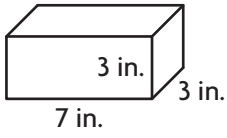


Volume: _____

How many of these boxes can fit into Box A?

_____

2.

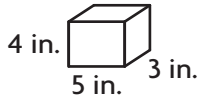


Volume: _____

How many of these boxes can fit into Box B?

_____

3.

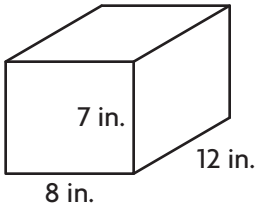


Volume: _____

How many of these boxes can fit into Box C?

_____

4.

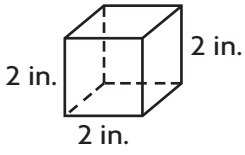


Volume: _____

After Leah packs this present in Box A, what is the volume left to pack other presents?

_____

5.

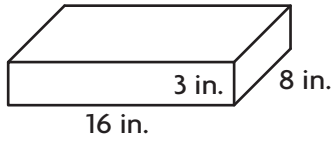


Volume: _____

After Leah packs 10 of these presents in Box B, what is the volume left to pack other presents?

_____

6.



Volume: _____

After Wayne packs 3 of these presents in Box C, what is the volume left to pack other presents?

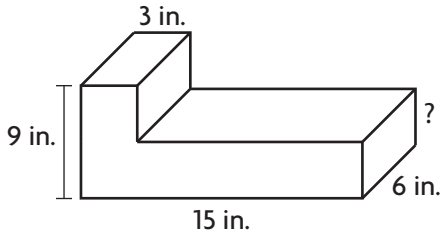
_____

Name _____

Finding Unknown Side Lengths

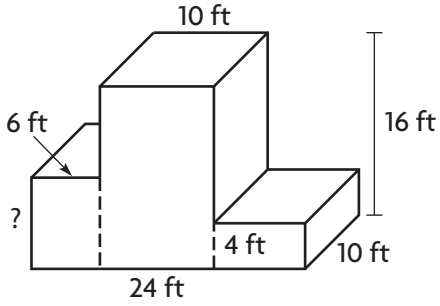
The volume of each composite figure is given. Find the unknown side length.

1. Volume = 378 in.^{3}



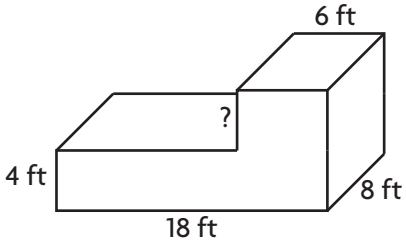
_____

2. Volume = 2,400 ft^3



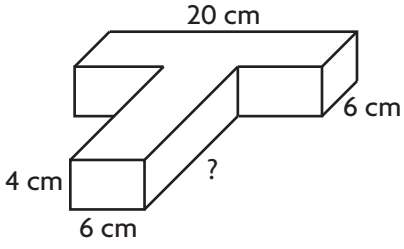
_____

3. Volume = 768 ft^3



_____

4. Volume = 864 cm^3



_____

5. Write Math **Explain** how you found the unknown side length of the composite figure in Exercise 3.

_____

_____

_____

_____

_____

_____

_____

_____

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