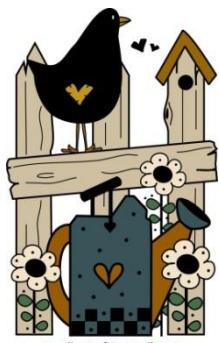


Thinking and Reasoning Activities Included!

3rd Grade Common Core Math

All About Area

Activities to Teach
and Learn Area



Written by:
Math - It Works

www.nuttyaboutnumbers.blogspot.com

Directions for Using This Unit

Square Units of Area introduces students to the concept of using unit squares to cover an area without gaps. **Multiplying Sides for Area** gives students experience with using multiplication as a quicker way to find area.

Students practice finding unknown sides of rectangles and squares on **Finding the Length of Opposite Sides**. For **All the Possibilities**, students find all possible combinations of width and length measurements for the given area.

Finding the Area of Irregular Shapes 1 & 2 begins with students drawing horizontal or diagonal lines to divide the shape into two regular shapes. Then students go on to find the area of both shapes and add them together.

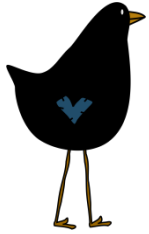
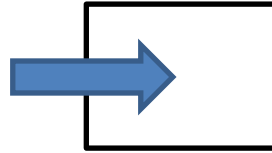
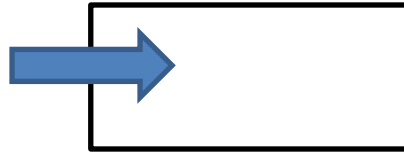
Students explore using the distributive property of multiplication for finding area on **The Distributive Property of Multiplication**.

Follow me at: **Math – It Works** for more Common Core math activities, assessments and games. Check out **All About Area – Assessment for the Common Core**.

Square Units of Area

Name _____

To find the **area** we look at the inside of a shape.

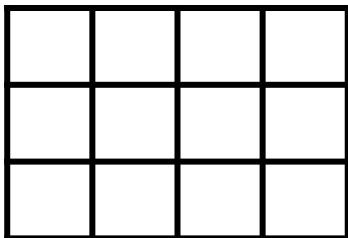


1	2	3
4	5	6
7	8	9

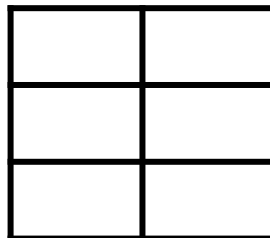
To find **area**, we can cover the shape with square units and count the units.

The **area** of the square above is 9 square units.

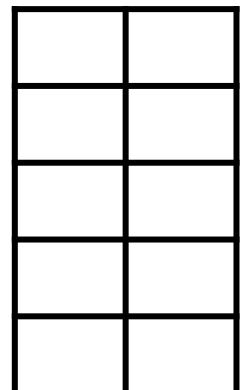
Find the area of each shape below by counting the square units.



Area = _____ Square Units



Area = _____ Square Units

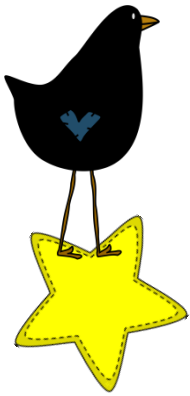


Area = _____

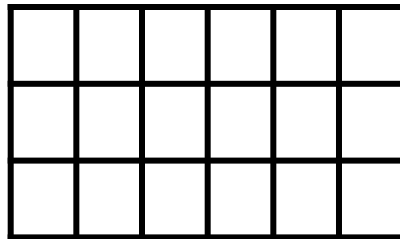
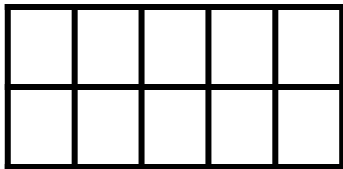
Square Units

Square Units of Area 2

Name _____



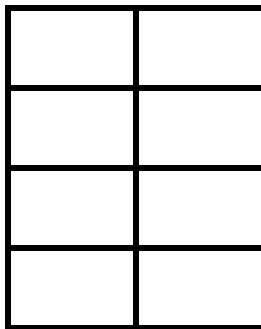
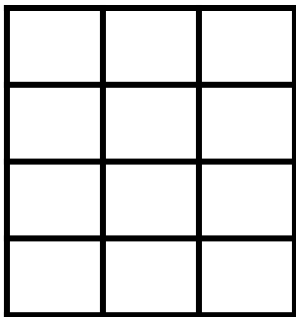
Don't forget to label your answers with square units.



Area = _____

Area = _____

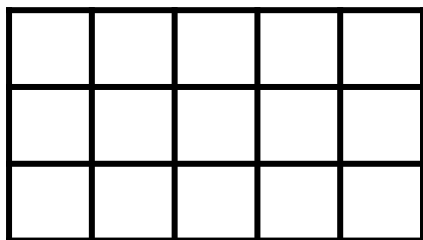
Area = _____



Area = _____

Area = _____

Area = _____




Area = _____

Can you think of a quick way to count the area?

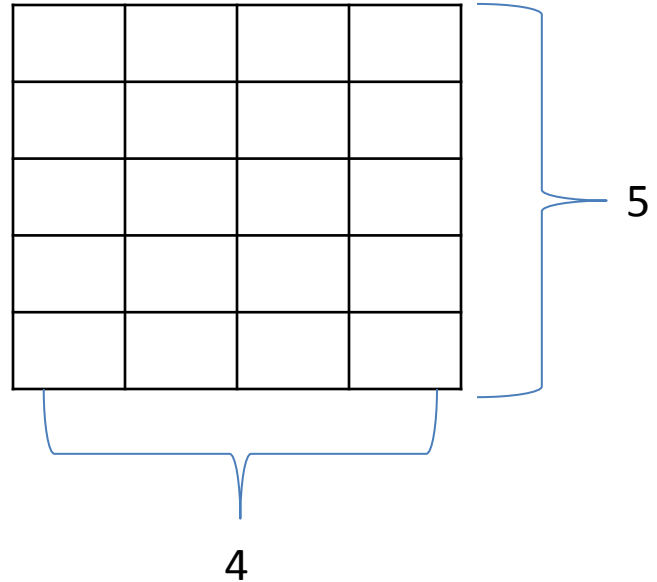


Multiplying Sides for Area

Name _____



Label each side of the rectangle by counting the number of square units on each side.

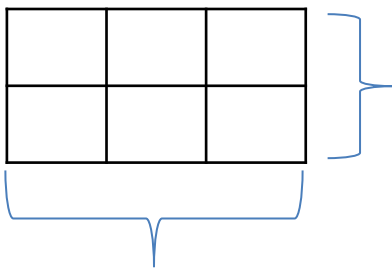


Then use multiplication to find the total number of square units.

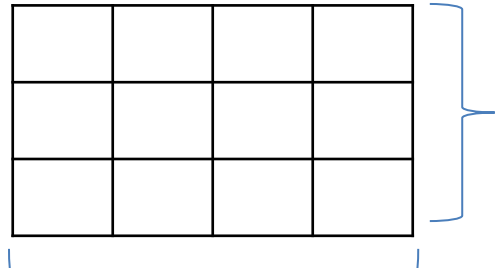
4 square units x 5 square units = 20 square units.




Now it's your turn. Count and label the square units on each side. Multiply to find the total.



_____ x _____ = _____



_____ x _____ = _____



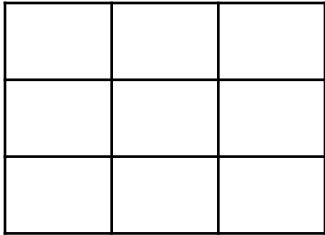
Multiplying the length of the rectangle by its width is a quick way to find the area.

Multiplying Sides for Area

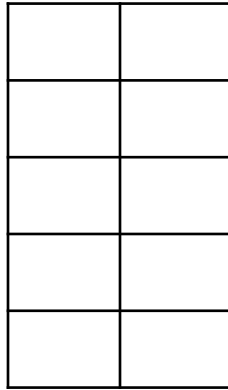
Name _____



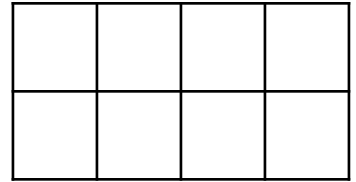
Label each side of the shape and multiply to find the area.



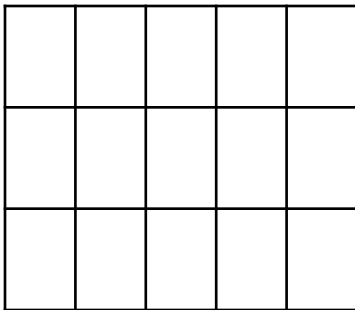
_____ X _____ = _____



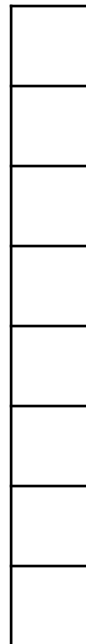
_____ X _____ = _____



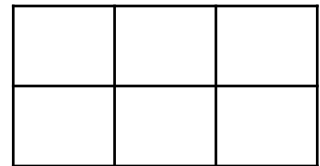
_____ X _____ = _____



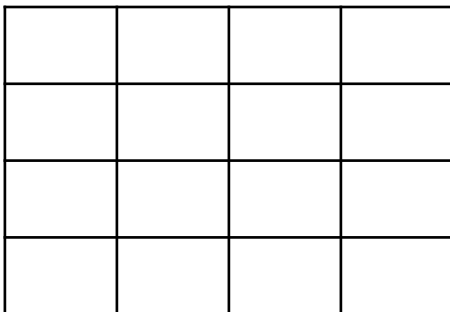
_____ X _____ = _____



_____ X _____ = _____



_____ X _____ = _____



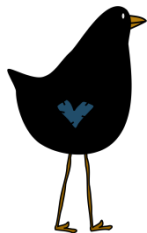
_____ X _____ = _____



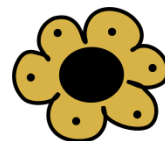
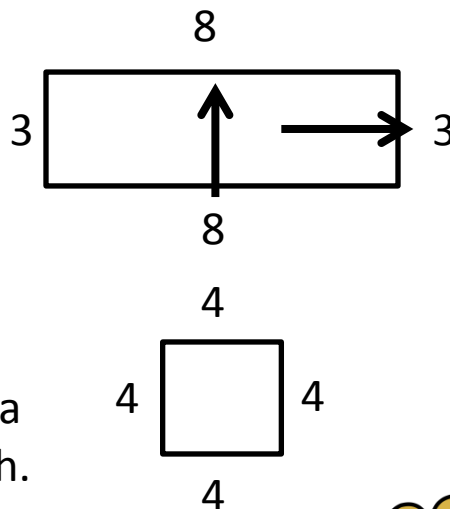
Finding the length of the opposite side.

Name _____

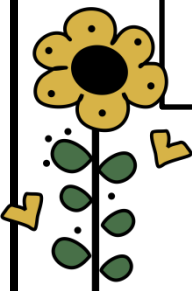
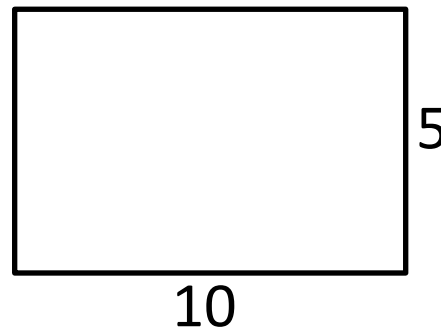
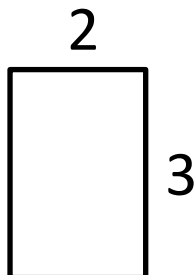
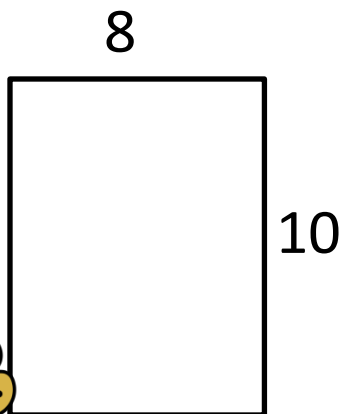
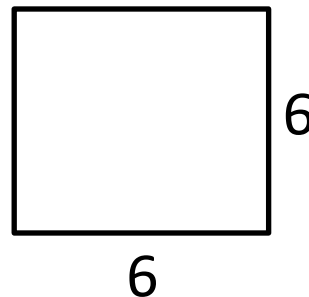
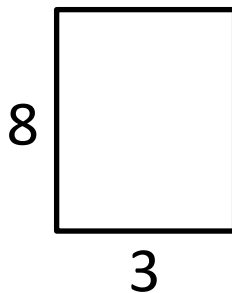
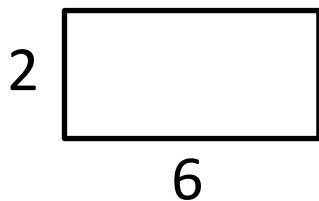
Remember, opposite sides of a square or a rectangle are the same length.



Don't forget – All sides of a square are the same length.



Label the side lengths of each shape below.

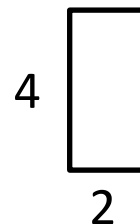
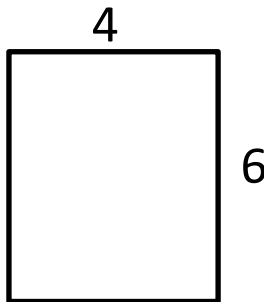
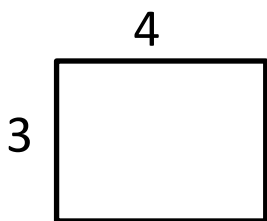


Finding Area

Name _____



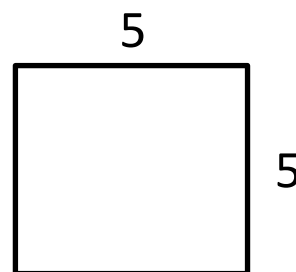
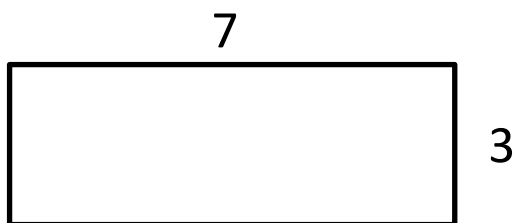
Find the area of each shape below.



Area = _____

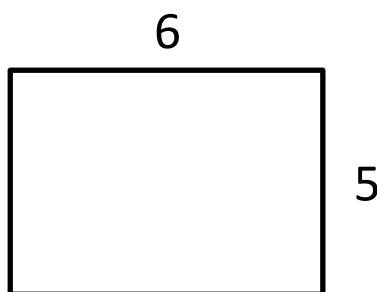
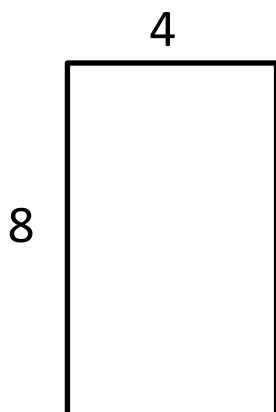
Area = _____

Area = _____

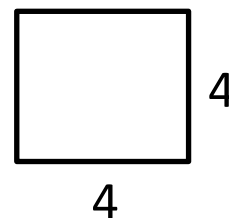


Area = _____

Area = _____



Area = _____



Area = _____

Area = _____



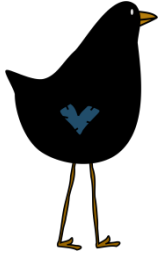
All the Possibilities

Name _____

If the area is 12 square units, what do the sides measure?

Area = 12 square units

6



2



3

4

1



12

Your turn! Draw all the possible shapes and label their sides for the areas below.

Area = 6 square units

Area = 14 square units

All the Possibilities 2

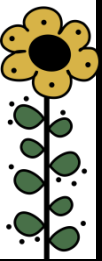
Name _____

Area = 10
square units

Area = 20
square units

Area = 9
square units

Area = 24 square
units



What information do I need to find the area of a rectangle?

What do I know about the sides of a rectangle?

What do I know about the sides of a square?

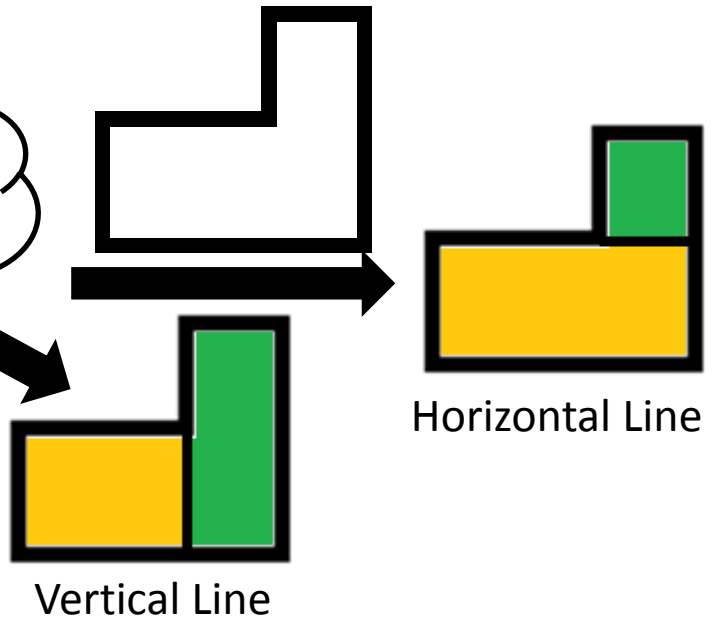
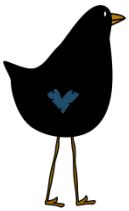
How can I use an array to help me find area?

How does multiplication help me find area?

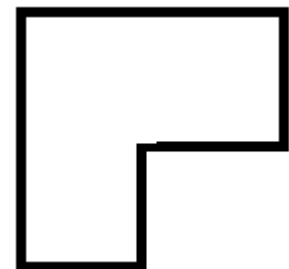
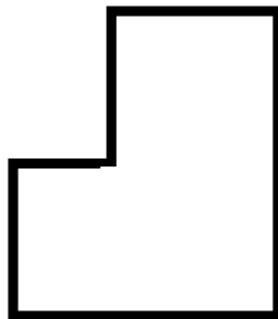
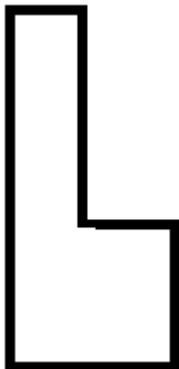
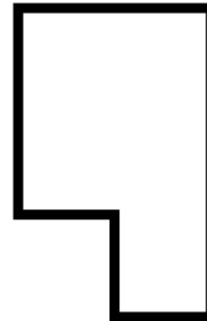
Finding the Area of Irregular Shapes

Name _____

Draw a line to turn the irregular shape into two rectangles.



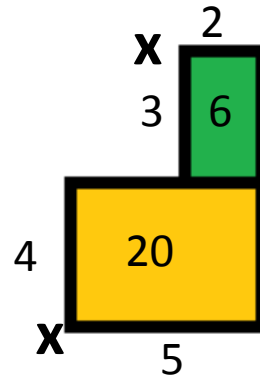
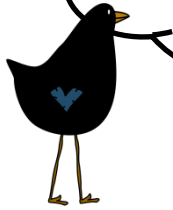
Practice adding either a horizontal or a vertical line to separate the irregular shape into two rectangles.



Finding the Area of Irregular Shapes 2

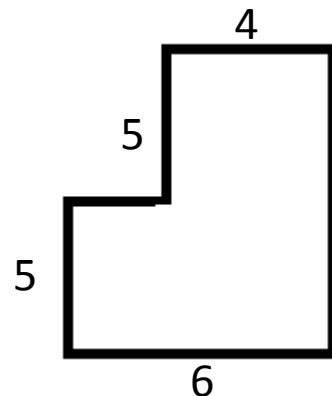
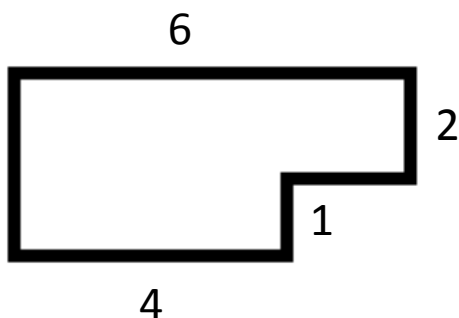
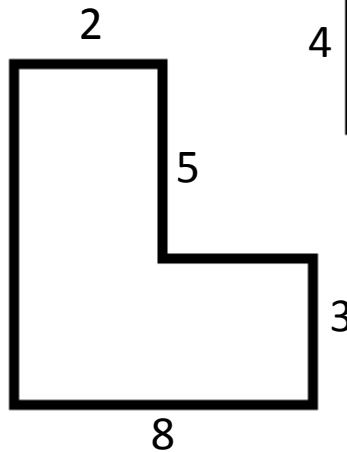
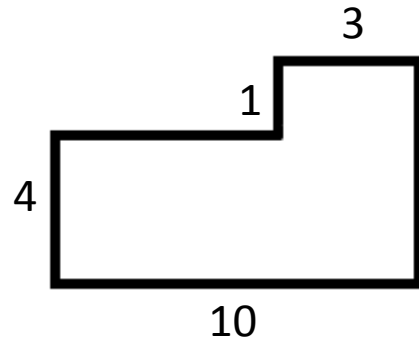
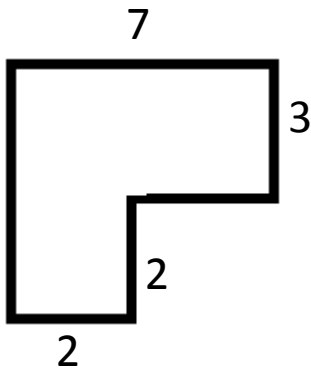
Name _____

After you draw a line to divide the shape into two rectangles, you can find the area of each rectangle, then add them together to get the total area.



$$6 \text{ square units} + 20 \text{ square units} = 26 \text{ square units.}$$

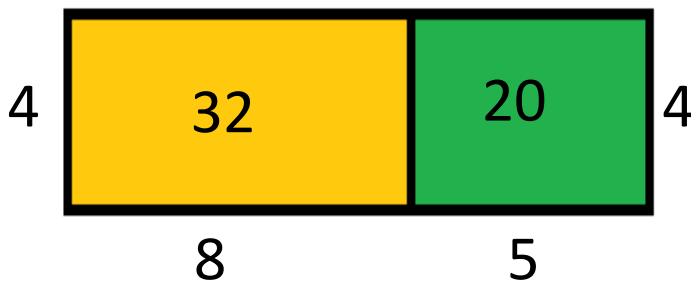
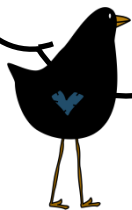
Draw a horizontal line to divide the irregular shapes into two rectangles. Find the area of each rectangle.



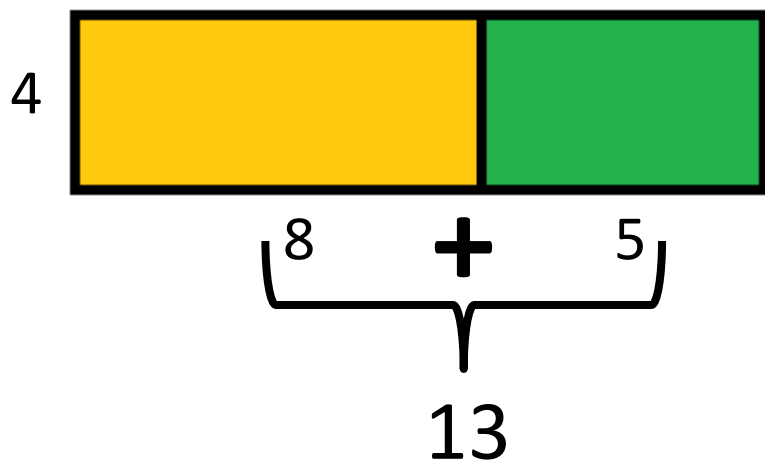
The Distributive Property of Multiplication

Name _____

There are two ways to find the area of these two rectangles pushed together.



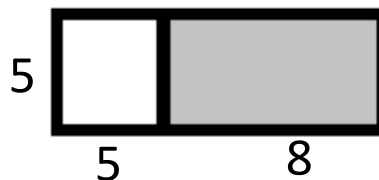
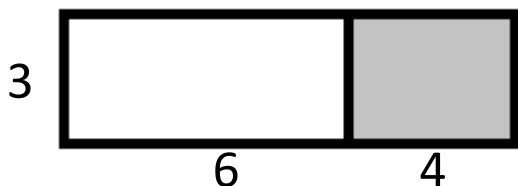
$$(4 \times 8) + (4 \times 5) = 52$$



or

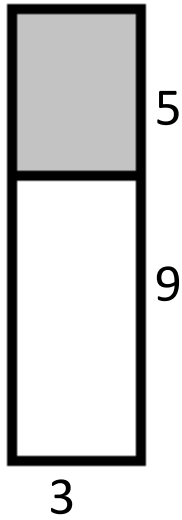
$$4 \times 13 = 52$$

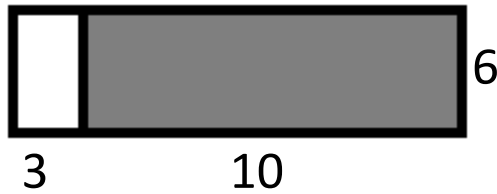
Try using both methods above to find the area of the shapes below.



The Distributive Property of Multiplication

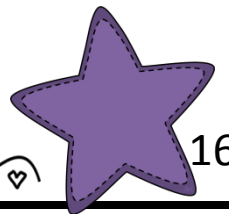
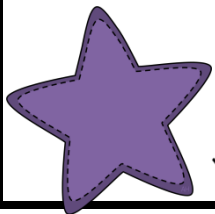
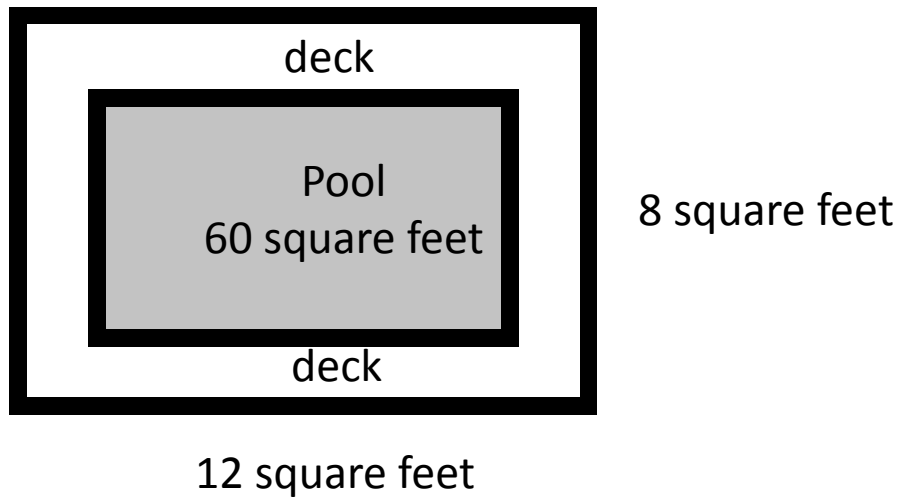
Name _____





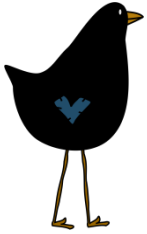
1. Kevin is building a walking path in front of his house. The path measures 4 feet wide and 12 feet long. He will use bricks that are 1 square foot. How many bricks will he need to cover the walking path?

2. The area of Sammy's pool measures 60 square feet. She would like to build a deck around the pool that is 12 feet long by 8 feet wide. How much area will the deck cover?



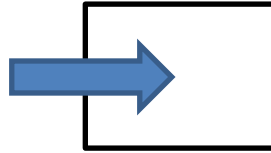
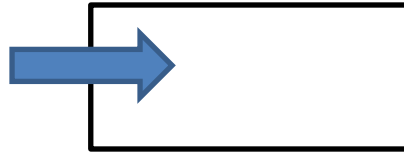
Square Units of Area

To find the **area** we look at the inside of a shape.



1	2	3
4	5	6
7	8	9

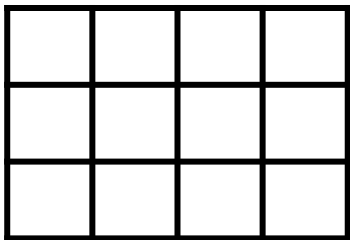
Answer Key



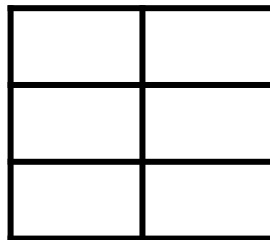
To find **area**, we can cover the shape with square units and count the units.

The **area** of the square above is 9 square units.

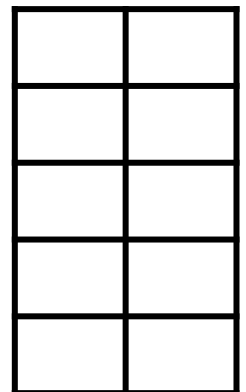
Find the area of each shape below by counting the square units.



Area = 12 Square Units



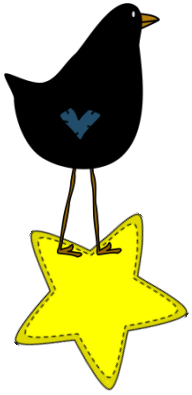
Area = 6 Square Units



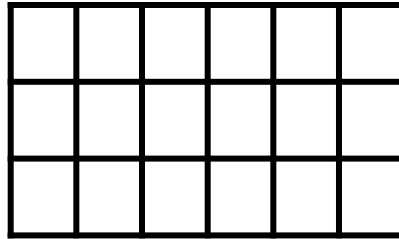
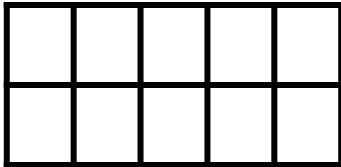
Area = 10 Square Units

Square Units of Area 2

Answer Key



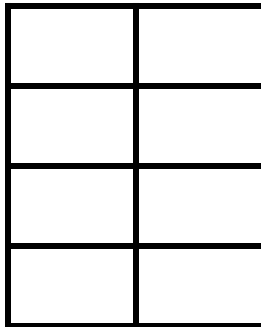
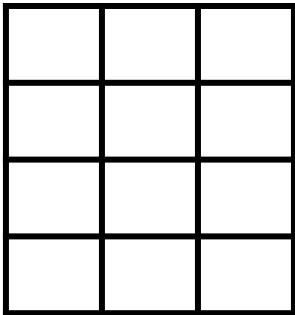
Don't forget to label your answers with square units.



Area = 10 square units

Area = 18 square units

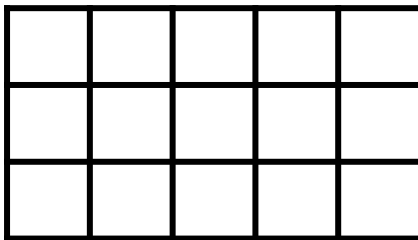
Area = 7 square units



Area = 12 square units

Area = 8 square units

Area = 9 square units




Area = 15 square units

Can you think of a quick way to count the area?

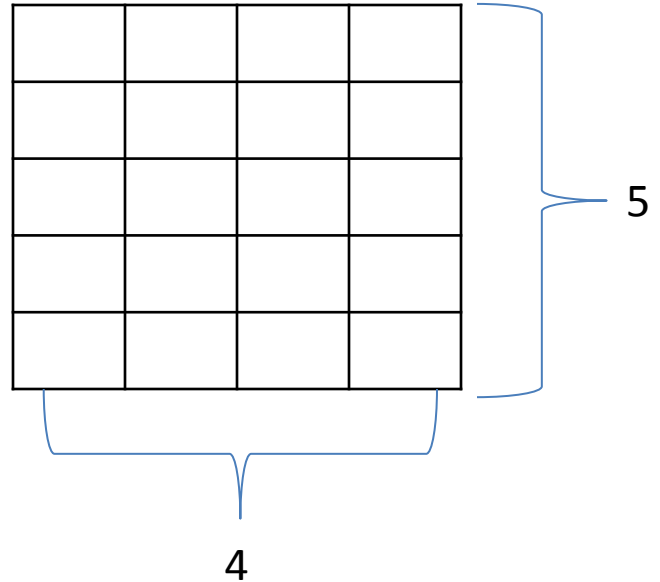


Multiplying Sides for Area

Answer Key



Label each side of the rectangle by counting the number of square units on each side.

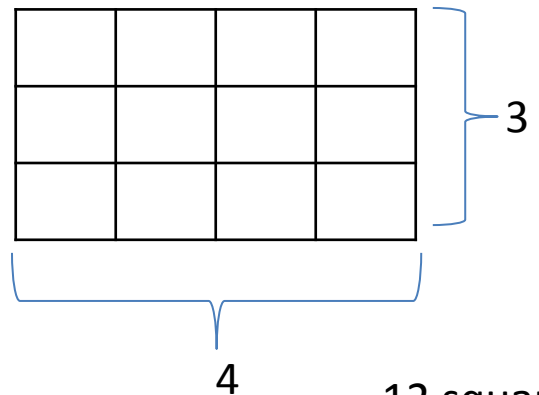
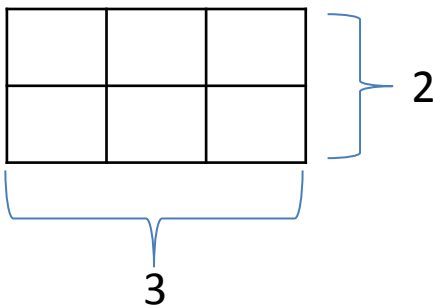


Then use multiplication to find the total number of square units.

4 square units x 5 square units = 20 square units.




Now it's your turn. Count and label the square units on each side. Multiply to find the total.



$$\underline{2} \times \underline{3} = \underline{6 \text{ square units}}$$

$$\underline{3} \times \underline{4} = \underline{12 \text{ square units}}$$



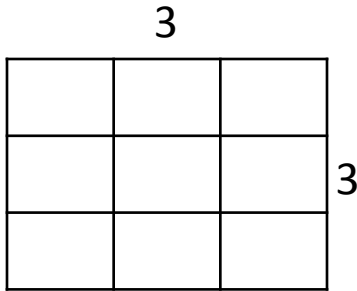
Multiplying the length of the rectangle by its width is a quick way to find the area.

Multiplying Sides for Area

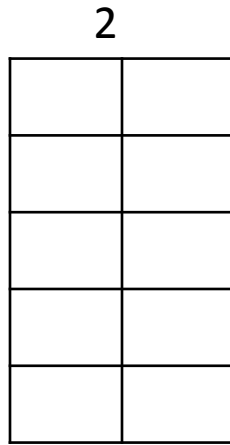
Answer Key



Label each side of the shape and multiply to find the area.



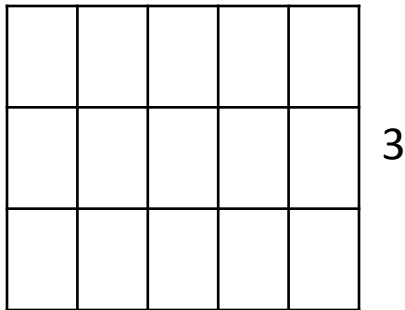
$$\begin{array}{r} 3 \\ \times 3 \\ \hline 9 \end{array}$$



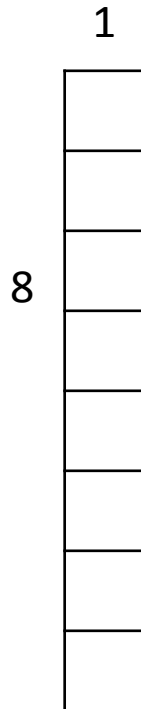
$$\begin{array}{r} 2 \\ \times 5 \\ \hline 10 \end{array}$$



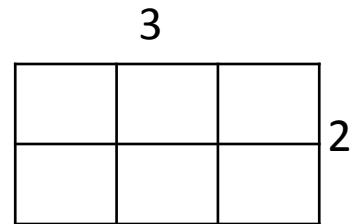
$$\begin{array}{r} 2 \\ \times 4 \\ \hline 8 \end{array}$$



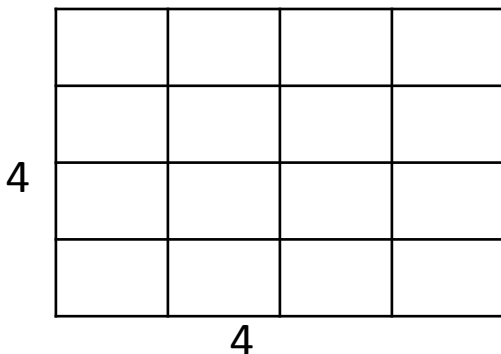
$$\begin{array}{r} 3 \\ \times 5 \\ \hline 15 \end{array}$$



$$\begin{array}{r} 1 \\ \times 8 \\ \hline 8 \end{array}$$



$$\begin{array}{r} 2 \\ \times 3 \\ \hline 6 \end{array}$$

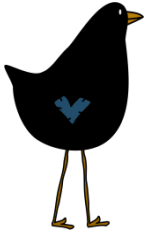


$$\begin{array}{r} 4 \\ \times 4 \\ \hline 16 \end{array}$$



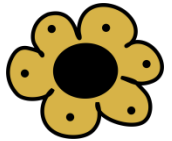
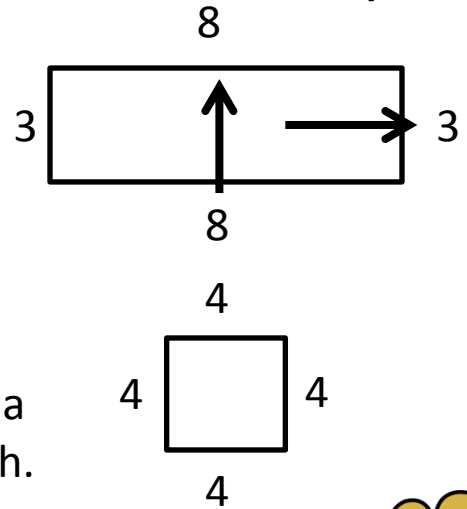
Finding the length of the opposite side.

Remember, opposite sides of a square or a rectangle are the same length.

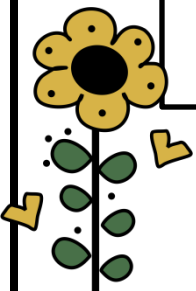
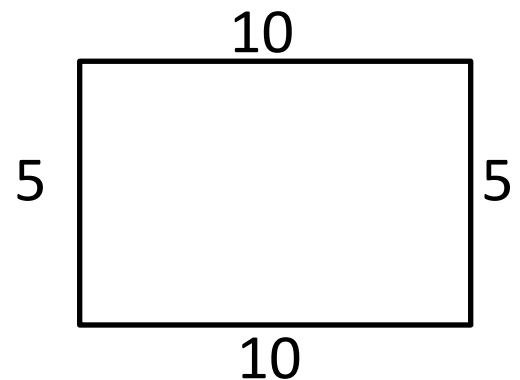
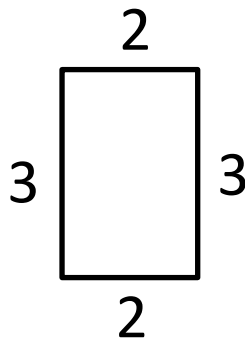
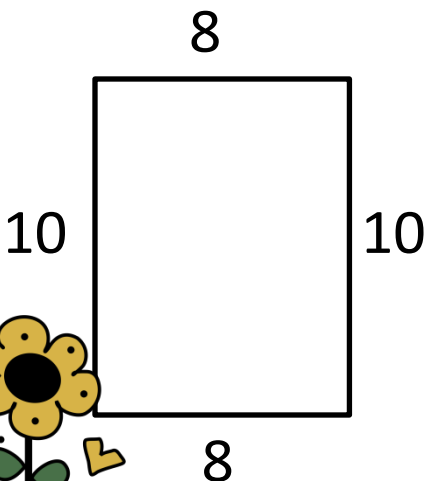
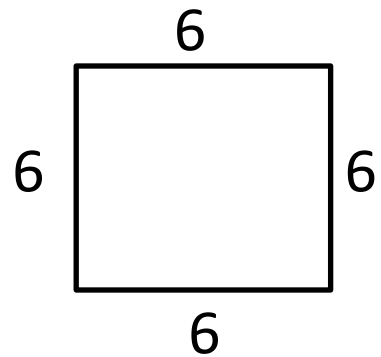
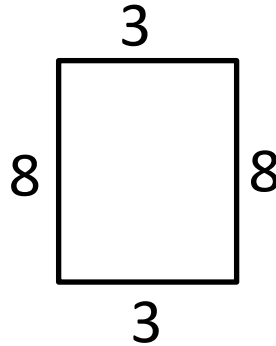
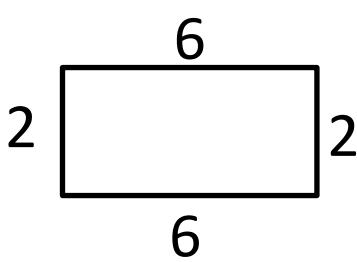


Don't forget – All sides of a square are the same length.

Answer Key



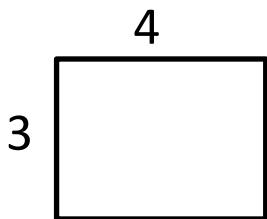
Label the side lengths of each shape below.



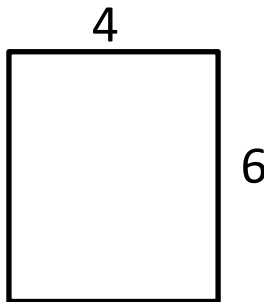
Finding Area

Answer Key

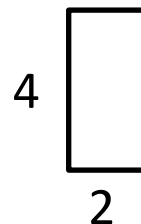
Find the area of each shape below.



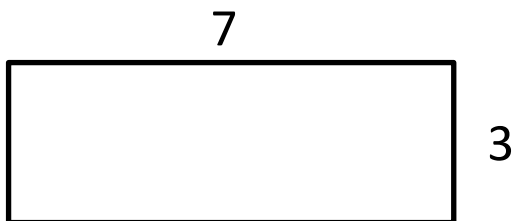
$$\text{Area} = \underline{12 \text{ sq. units}}$$



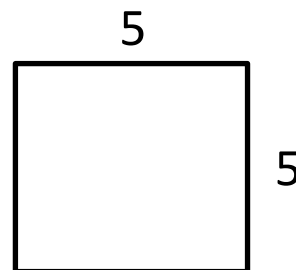
$$\text{Area} = \underline{24 \text{ sq. units}}$$



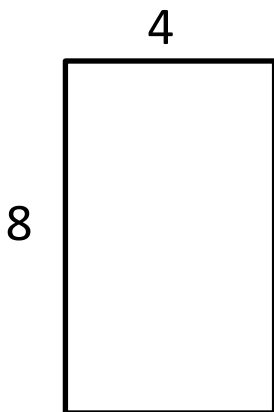
$$\text{Area} = \underline{8 \text{ sq. units}}$$



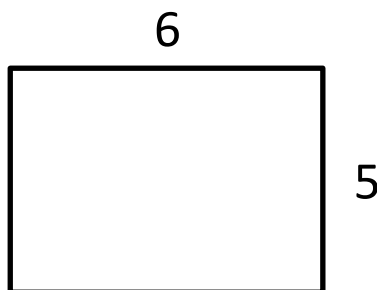
$$\text{Area} = \underline{21 \text{ sq. units}}$$



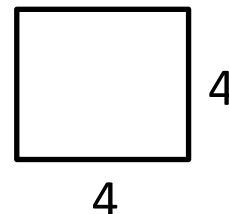
$$\text{Area} = \underline{25 \text{ sq. units}}$$



$$\text{Area} = \underline{32 \text{ sq. units}}$$



$$\text{Area} = \underline{30 \text{ sq. units}}$$



$$\text{Area} = \underline{16 \text{ sq. units}}$$

All the Possibilities

Answer Key

If the area is 12 square units, what do the sides measure?

Area = 12 square units

6



2



3

4

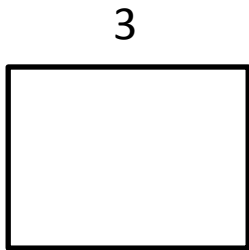
1



12

Your turn! Draw all the possible shapes and label their sides for the areas below.

Area = 6 square units



3

2

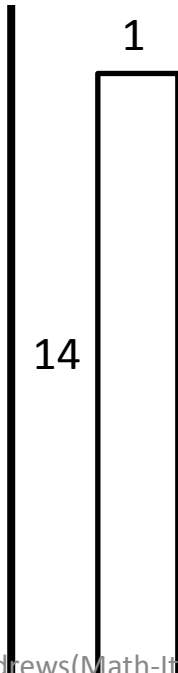
1



6

1

14



Area = 14 square units



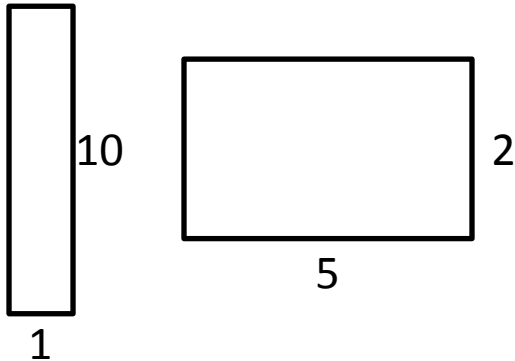
2

7

23

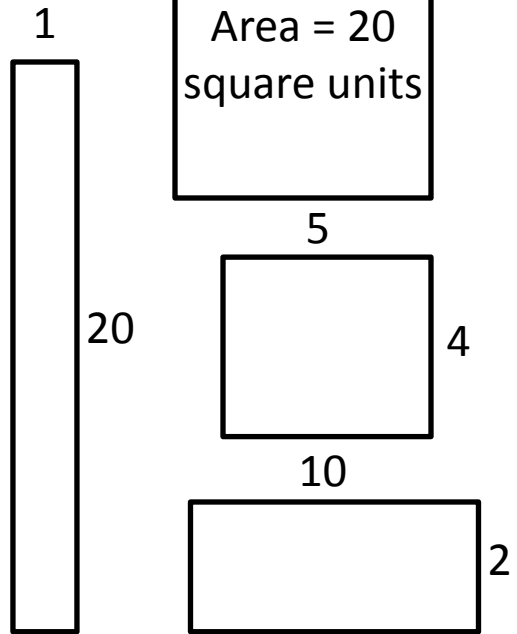
All the Possibilities 2

Area = 10
square units

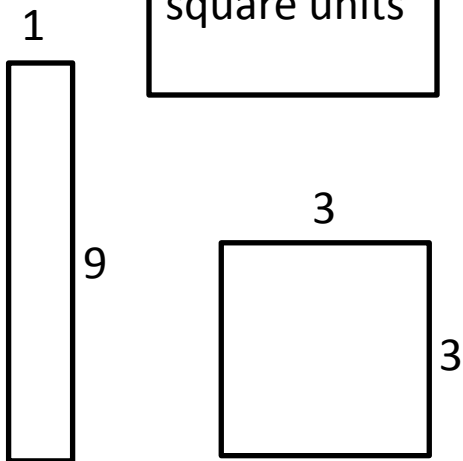


Answer Key

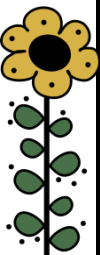
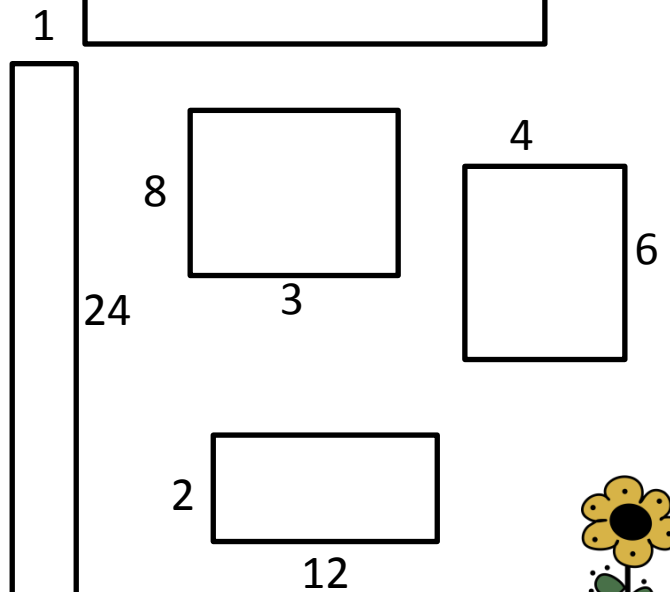
Area = 20
square units



Area = 9
square units



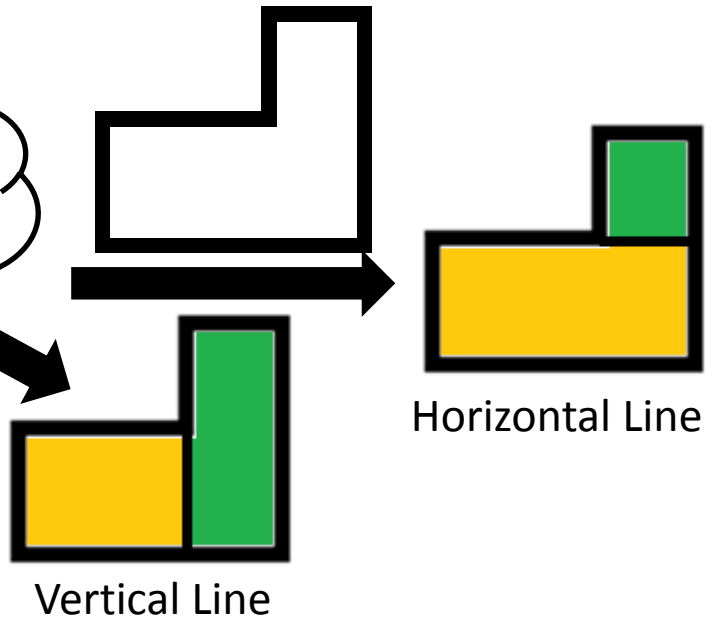
Area = 24 square
units



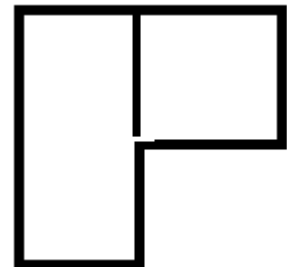
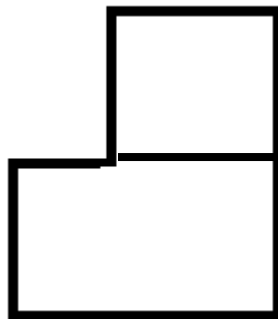
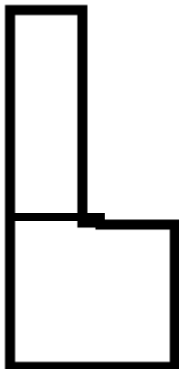
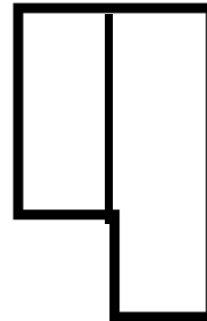
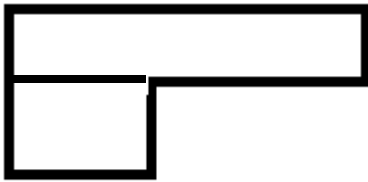
Finding the Area of Irregular Shapes

Answer Key

Draw a line to turn the irregular shape into two rectangles.



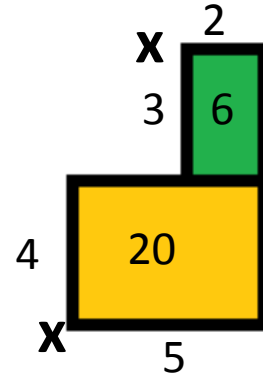
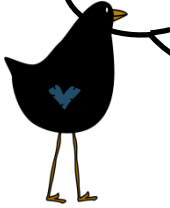
Practice adding either a horizontal or a vertical line to separate the irregular shape into two rectangles.



Finding the Area of Irregular Shapes 2

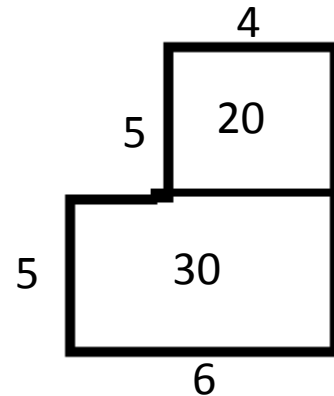
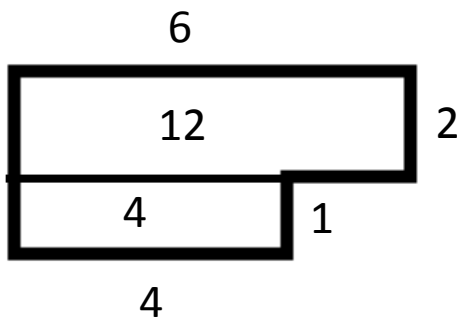
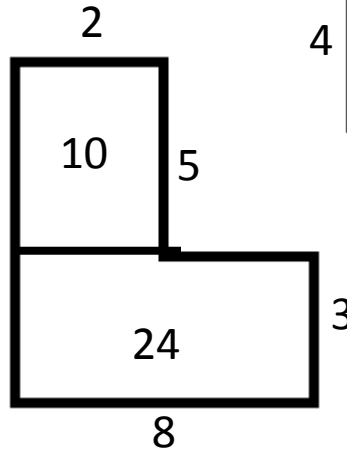
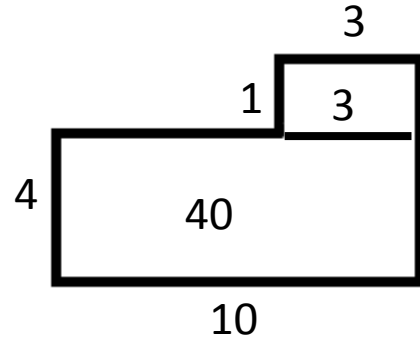
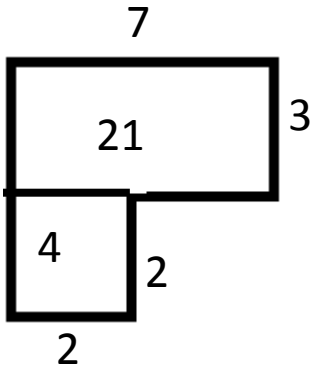
Answer Key

After you draw a line to divide the shape into two rectangles, you can find the area of each rectangle, then add them together to get the total area.



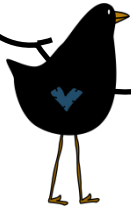
$$6 \text{ square units} + 20 \text{ square units} = 26 \text{ square units.}$$

Draw a horizontal line to divide the irregular shapes into two rectangles. Find the area of each rectangle.

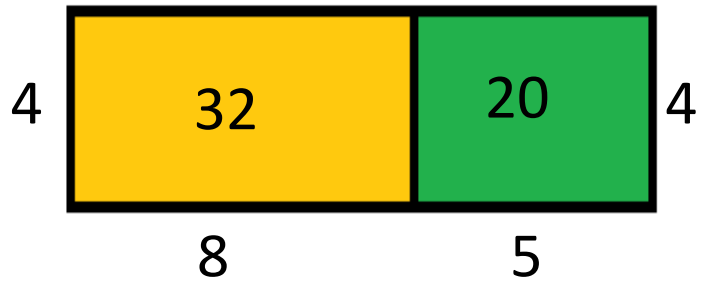


The Distributive Property of Multiplication

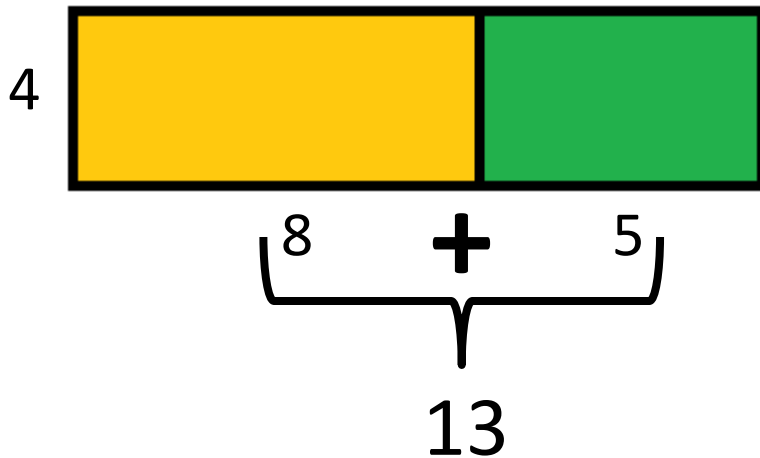
There are two ways to find the area of these two rectangles pushed together.



Answer Key



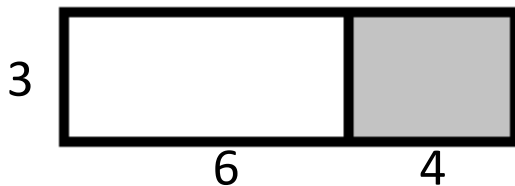
$$(4 \times 8) + (4 \times 5) = 52$$



or

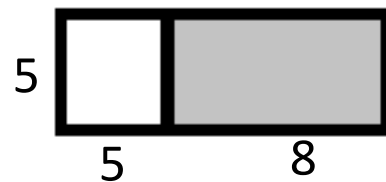
$$4 \times 13 = 52$$

Try using both methods above to find the area of the shapes below.



$$(3 \times 6) + (3 \times 4) = 30 \text{ sq. units}$$

$$3 \times 10 = 30 \text{ sq. units}$$



$$(5 \times 5) + (5 \times 8) = 65 \text{ sq. units}$$

$$5 \times 13 = 65 \text{ sq. units}$$

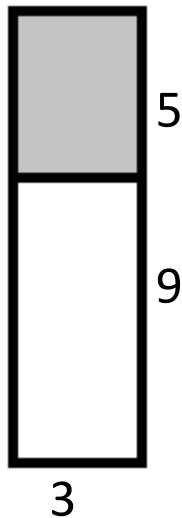
The Distributive Property of Multiplication

Answer Key



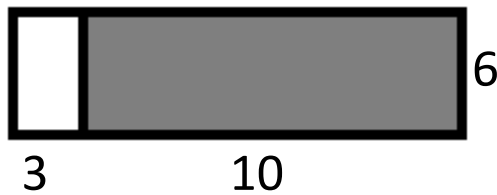
$$(2 \times 4) + (2 \times 10) = 28 \text{ sq. units}$$

$$2 \times 14 = 28 \text{ sq. units}$$



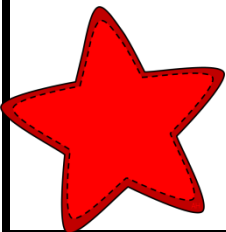
$$(3 \times 9) + (3 \times 5) = 42 \text{ sq. units}$$

$$3 \times 14 = 42 \text{ sq. units}$$



$$(6 \times 10) + (6 \times 3) = 78 \text{ sq. units}$$

$$6 \times 13 = 78 \text{ sq. units}$$



1. Kevin is building a walking path in front of his house. The path measures 4 feet wide and 12 feet long. He will use bricks that are 1 square foot. How many bricks will he need to cover the walking path?

12 ft.

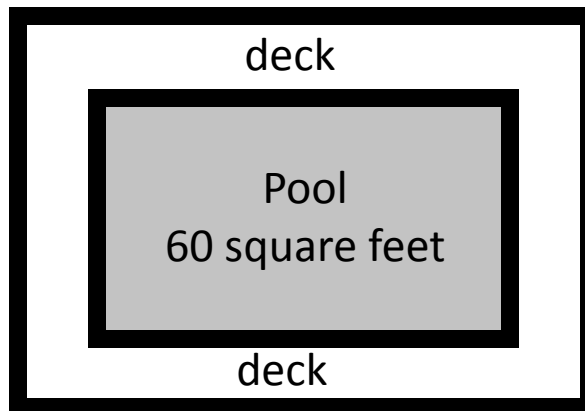
4
ft.

$$4 \times 12 = 48 \text{ sq. feet}$$

Kevin will need 48 bricks to cover the walking path.

2. The area of Sammy's pool measures 60 square feet. She would like to build a deck around the pool that is 12 feet long by 8 feet wide. How much area will the deck cover?

The deck will cover 36 sq. feet.



8 square feet

12 square feet

Pool Area = 60 square feet

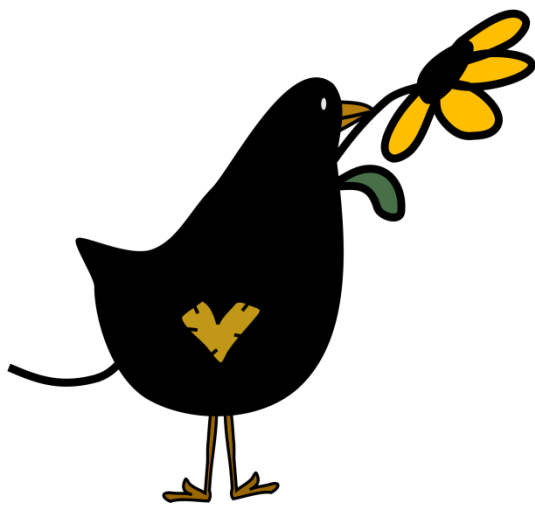
Deck Area = 96 square feet

$$96 \text{ sq. feet} - 60 \text{ sq. feet} = 36 \text{ sq. feet}$$

Graphics provided by:

Lisa's Original Country Clipart

<http://www.countryclipart.com>



<http://www.nuttyaboutnumbers.blogspot.com>