Thinking and Reasoning Activities Included!

3rd Grade Common Core Math

All About Area

Activities to Teach and Learn Area

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

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

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Square Units of Area 2

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

Area = _______
Area = _______
Area = _______

Area = _______
Area = _______
Area = _______

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

Area = _______
Multiplying Sides for Area

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

\[ \text{X} \times \text{X} = \text{X} \]

\[ \text{X} \times \text{X} = \text{X} \]

\[ \text{X} \times \text{X} = \text{X} \]

\[ \text{X} \times \text{X} = \text{X} \]

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\[ \text{X} \times \text{X} = \text{X} \]
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.

Label the side lengths of each shape below.

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Find the area of each shape below.

Area = ________

Area = ________

Area = ________

Area = ________

Area = ________

Area = ________

Area = ________

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

Area = 12 square units

6

2

3

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
Checking for Understanding

Name __________________

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

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 square units + 20 square units = 26 square units.

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

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The Distributive Property of Multiplication

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 _____________________

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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.

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td>8</td>
<td>9</td>
</tr>
</tbody>
</table>

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

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

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

10 square units

18 square units

7 square units

12 square units

8 square units

9 square units

15 square units

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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 $\times$ 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.

Multiplying the length of the rectangle by its width is a quick way to find the area.
Label each side of the shape and multiply to find the area.

1. \(3 \times 3 = 9\)
2. \(2 \times 5 = 10\)
3. \(3 \times 5 = 15\)
4. \(2 \times 3 = 6\)
5. \(1 \times 8 = 8\)
6. \(4 \times 4 = 16\)
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.

Label the side lengths of each shape below.

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Find the area of each shape below.

- Area = 12 sq. units
- Area = 24 sq. units
- Area = 8 sq. units
- Area = 21 sq. units
- Area = 25 sq. units
- Area = 30 sq. units
- Area = 32 sq. units
- Area = 16 sq. units

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

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

Area = 6 square units
- 1 x 6
- 2 x 3

Area = 14 square units
- 1 x 14
- 7 x 2
- 6 x 2
Area = 10 square units

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.

Horizontal Line

Vertical Line

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

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Finding the Area of Irregular Shapes 2

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 square units + 20 square units = 26 square units.

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

(C)P. Andrews (Math-It Works), 2013
The Distributive Property of Multiplication

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

\[ (4 \times 8) + (4 \times 5) = 52 \]

\[ 4 \times 13 = 52 \]

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 x 4) + (2 x 10) = 28 sq. units

2 x 14 = 28 sq. units

(3 x 9) + (3 x 5) = 42 sq. units

3 x 14 = 42 sq. units

(6 x 10) + (6 x 3) = 78 sq. units

6 x 13 = 78 sq. units

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Solving Area Problems

Answer Key

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 x 12 = 48 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.

   
   
   Pool Area = 60 square feet

   Deck Area = 96 square feet

   
   96 sq. feet – 60 sq. feet = 36 sq. feet

   

   (C)P. Andrews (Math-It Works), 2013