

lesson twenty-five - student resource sheet

Lesson Objective: Add and subtract fractions with like denominators and change improper fractions to mixed numbers.

Vocabulary Box

proper fraction — A fraction with a numerator that is less than the denominator. It has a value of less than 1. Examples: $\frac{1}{2}$, $\frac{3}{4}$, $\frac{5}{8}$, and $\frac{11}{12}$.

improper fraction — A fraction with a numerator that is greater than or equal to the denominator. It has a value greater than or equal to 1. Examples: $\frac{3}{2}$, $\frac{7}{4}$, $\frac{3}{3}$, and $\frac{8}{8}$.

mixed number — An amount that is given as a whole number plus a proper fraction. It always has a value greater than 1. Examples: $1\frac{1}{2}$, $3\frac{4}{5}$, $2\frac{1}{3}$, and $1\frac{3}{8}$.



Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

- I. Write each improper fraction as a whole number or mixed number. Remember to write your answer in simplest form.

1. $\frac{15}{3} =$ _____

2. $\frac{7}{2} =$ _____

3. $\frac{21}{9} =$ _____

II. Draw a picture to model and solve each problem. Remember to write your answer in simplest form.

1. $\frac{2}{8} + \frac{3}{8} =$ _____

2. $\frac{9}{10} - \frac{3}{10} =$ _____

III. Use math to find each sum or difference. Write your answer in simplest form.

1. $\frac{20}{4} - \frac{9}{4} =$ _____

2. $\frac{6}{10} + \frac{8}{10} =$ _____

3. $\frac{7}{3} + \frac{5}{3} =$ _____

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You can also write any mixed number as an improper fraction. Just follow these steps:

- Step 1: Multiply the denominator of the fraction part by the whole number part.
- Step 2: Add that product to the numerator of the fraction part.
- Step 3: Use that sum for the numerator of your improper fraction.
- Step 4: Use the same denominator that was in your mixed number for the denominator of your improper fraction.

Example: $4\frac{2}{3} = \frac{4 \times 3 + 2}{3} = \frac{12 + 2}{3} = \frac{14}{3}$

Directions: Write each mixed number as an improper fraction.

1. $2\frac{1}{4} =$ _____

2. $1\frac{3}{5} =$ _____

3. $3\frac{1}{2} =$ _____

4. $5\frac{2}{3} =$ _____

5. $2\frac{6}{7} =$ _____

Problem Solving

Shaneeeka wants to use the recipe shown below to make punch for her birthday party.

PUNCH

Ingredients:

$2\frac{5}{8}$ cups orange juice

$3\frac{1}{8}$ cups pineapple juice

$1\frac{3}{8}$ cups cranberry juice

$4\frac{5}{8}$ cups ginger ale

Directions: Combine all the ingredients in a large bowl. Chill for at least two hours. Serve.

1. How much punch will Shaneeeka make with this recipe?

To solve this problem, you need to add all of the ingredient.

$$2\frac{5}{8} + 3\frac{1}{8} + 1\frac{3}{8} + 4\frac{5}{8} = ?$$

Break up the problem into several smaller problems.

- a. Add all the whole number parts of the mixed numbers.

$$2 + 3 + 1 + 4 = \underline{\hspace{2cm}}$$

- b. Add all the fraction parts of the mixed numbers. Write your sum in simplest form.

$$\frac{5}{8} + \frac{1}{8} + \frac{3}{8} + \frac{5}{8} = \underline{\hspace{2cm}}$$

- c. Add your two sums—the sum of whole numbers and the sum of fractions.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

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d. Write your answer in a complete sentence. Use words from the problem.

2. Shaneeka drank $1\frac{1}{4}$ cups of the punch. How much punch is left? Show all your work. Remember to write your answer in a complete sentence.



1. An example of an improper fraction is _____.

2. $\frac{8}{3}$ written as a mixed number is _____.

3. $\frac{9}{11} + \frac{4}{11} =$ _____

lesson twenty-six - student resource sheet

Lesson Objective: Find the area of a rectangle by multiplying.

Vocabulary Box

rectangle — A polygon with four right angles that has parallel opposite sides of equal length. Examples: The two figures shown at the right are rectangles.

square — A rectangle that has four equal sides.

Example: The shaded rectangle shown at the right is a square.

area — The amount of surface a figure covers.

Example: The area of the rectangle shown below is 12 square centimeters.

square unit — A unit of measurement used to describe area.

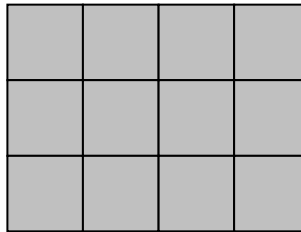
Examples: square inch, square centimeter, square foot.

rectangle

square



1 square centimeter



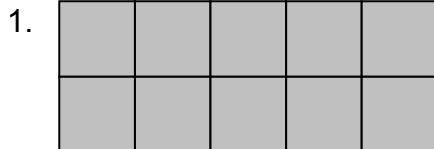
Area = 12 square centimeters



Guided Practice

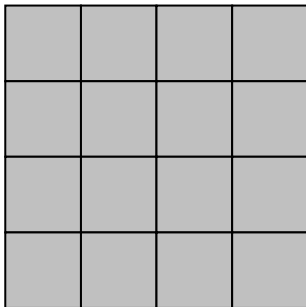
Directions: Complete the following practice problems with your partner. Your teacher will review the answers. Make sure you show all your work.

I. Count square units to find the area of each rectangle.



Area = _____

2.

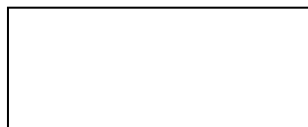


Area = _____

II. Use a formula to find the area of each rectangle.

1.

4 inches

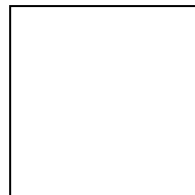


10 inches

Area = _____

2.

5 meters



5 meters

Area = _____

III. Use the formula for the area of a rectangle to find the unknown length or width of each rectangle.

1.

w



11 meters

Area = 33 square meters
Width = _____

2.

5 inches



l

Area = 45 square inches
Length = _____

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IV. Measure the length and width of each rectangle. Use inches to measure the first rectangle. Use centimeters to measure the second rectangle. Label your measurements along the correct sides of each rectangle. Then, use your measurements to find the area of each rectangle. Please work independently.

1.



Area = _____

2.



Area = _____



Summary/Closure

A. Vocabulary Words

Directions: Circle the letter of the correct answer.

1. Which of these figures is NOT a rectangle?

A.



B.



C.



2. The area of a figure is the _____.

- A. amount of surface the figure covers.
- B. distance around the outside of the figure.
- C. amount of surface outside the figure.
- D. distance across the figure.

3. I can use _____ to find the area of any rectangle.

- A. addition
- B. division
- C. multiplication
- D. division

4. Which of these units should NOT be used to describe a measurement of area?

- A. square inches
- B. square centimeters
- C. square pounds
- D. square kilometers

B. Summarize What We Learned Today

Write and solve a sample problem involving finding the area of a rectangle. Then explain in words, numbers, and pictures how you solved the problem. You will use this explanation as a personal reminder.

lesson twenty-seven - student resource sheet

Lesson Objective: Find the area of a rectangle by multiplying.

Vocabulary Box

rectangle— A polygon with four right angles that has parallel opposite sides of equal length. Examples: The figures shown at the right are rectangles.

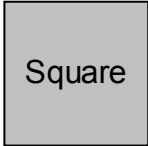
square— A rectangle that has four equal sides. Example: The shaded rectangle shown at the right is a square.

area— The amount of surface a figure covers. Example: The area of the rectangle shown below is 12 square centimeters.

square unit — A unit of measurement used to describe area. Examples: square inch, square centimeter, square foot.



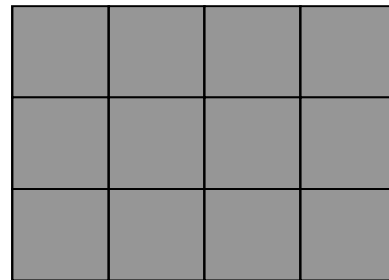
Rectangle



Square



1 square centimeter



Area = 12 square centimeters

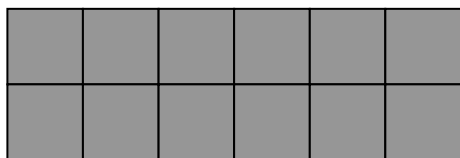


Independent Practice

Directions: Complete the following practice problems on your own. Your teacher will review the answers. Make sure you show all your work.

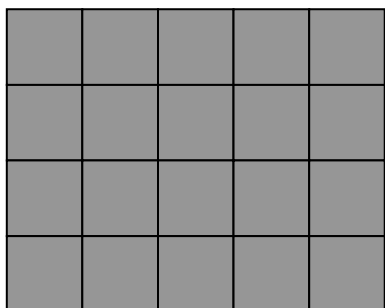
I. Count square units to find the area of each rectangle.

1.



Area = _____

2.



Area = _____

II. Use a formula to find the area of each rectangle.

1.

9 inches



9 inches

Area = _____

2.

8 meters



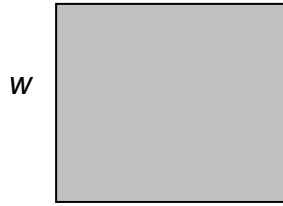
13 meters

Area = _____

III. Use the formula for the area of a rectangle to find the unknown length or width of each rectangle.

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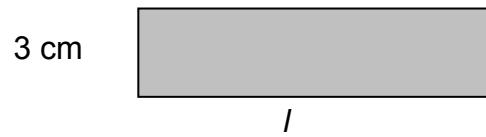
1.



Area = 42 square inches.

Width = _____

2.

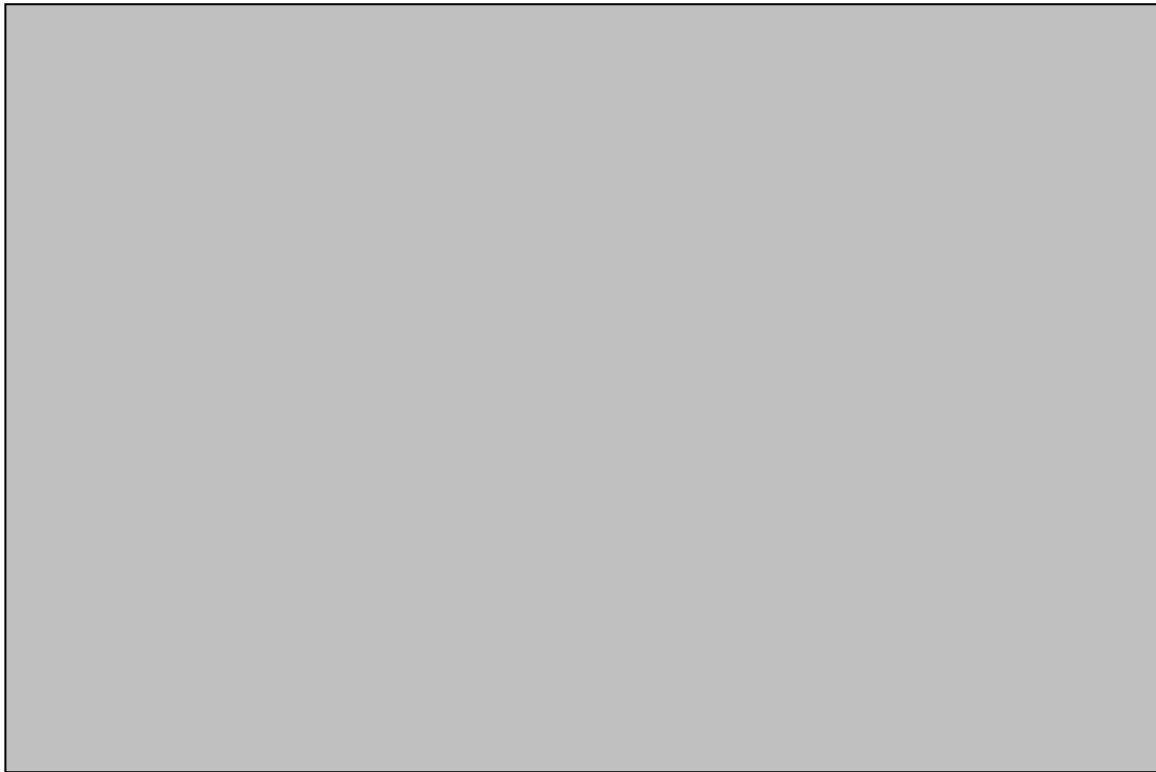


Area = 36 square centimeters.

Length = _____

IV. Measure the length and width of each rectangle. Use inches to measure the first rectangle. Use centimeters to measure the second rectangle. Label your measurements along the correct sides of each rectangle. Then use your measurements to find the area of each rectangle.

1.



Area = _____

2.



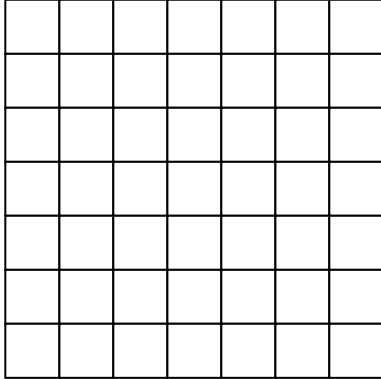
Area = _____

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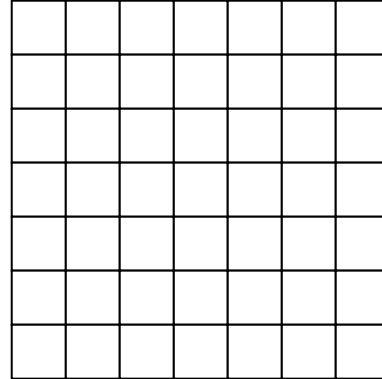
Directions: On each grid, outline and shade a rectangle to show the area that's written below it. Each grid square = 1 square unit.

1.



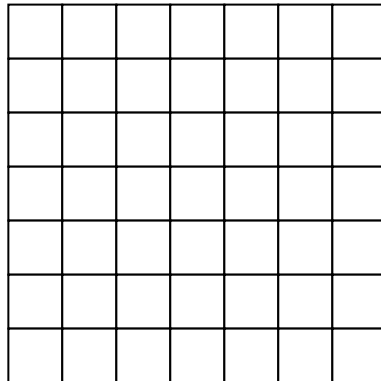
Area = 8 square units

2.



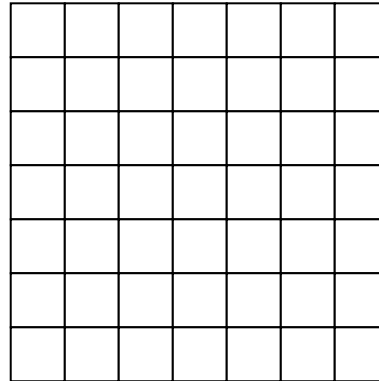
Area = 12 square units

3.



Area = 25 square units

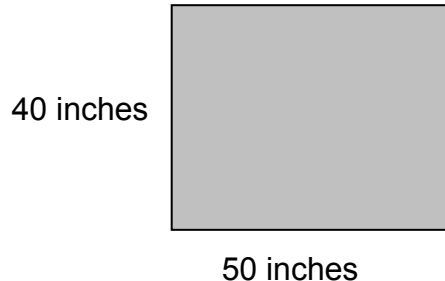
4.



Area = 18 square units

Problem Solving

Carlos is covering a table top with tiles. Each tile is a square that measures 2 inches on each side. The picture below shows the size and shape of the table top. How many tiles will Carlos use to cover the table top?

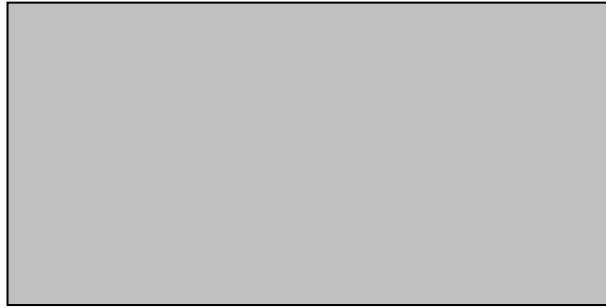


1. Steps to follow:
 - a. Find how much space Carlos needs to cover with the tiles.
Find the _____ of the table top.
 - b. Find how much space each tile will cover.
Find the _____ of each tile.
 - c. Find how many tiles will cover the table top.
2. Find the area of the table top.
The table top has the shape of a _____.
So, you can use the formula for the area of a _____.
Area of table top = _____
3. Find the area of each tile.
Each tile has the shape of a _____.
So, you can use the formula for the area of a _____.
Area of tile = _____
4. Find how many tiles are needed to cover the table top.
Area of table top \div area of each tile = number of tiles needed to cover table top.
5. Write your answer in a complete sentence. Use words from the problem.
6. Carlos wants to cover another table top with the same tiles. This table is 32 inches long and 12 inches wide. How many tiles will Carlos use to cover this table top? Show all your work. Write your answer in a complete sentence.



-
1. What is the formula for the area of a rectangle? _____
 2. What is the area of this rectangle? _____

4 inches



8 inches

3. What is the area of a square that measures 6 centimeters on each side?
