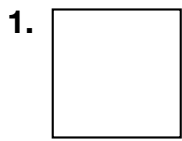


• Rectangles

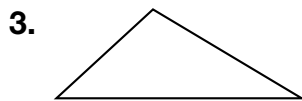
- **Rectangles** are flat figures with four sides.
- A rectangle has four square corners called **right angles**.
- A **square** is a rectangle that has four equal sides.

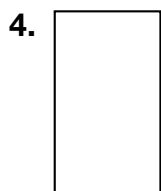
Practice:

Identify each shape as a rectangle or not a rectangle. If the shape is not a rectangle, write why it is not.





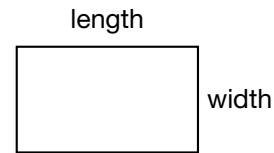






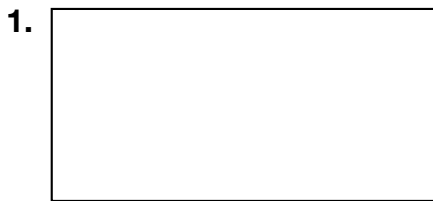
• Length and Width

- A rectangle has length and width.
- The measure of the longer side of a rectangle is called the **length**.
- The measure of the shorter side of a rectangle is called the **width**.



Practice:

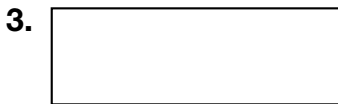
Use your ruler to find the length and width of each rectangle.



Length _____ Width _____



Length _____ Width _____



Length _____ Width _____



Length _____ Width _____

5. Draw a rectangle that is 3 inches long and $1\frac{1}{2}$ inches wide.

• **Rectangular Grid Patterns**

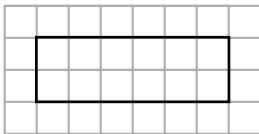
- Rectangles that are drawn on grid paper are measured in “units” instead of “inches.”
- Small squares inside of the rectangle are arranged in **columns** and **rows**. Columns go up and down. Rows go from side to side.
- This rectangle has 3 columns and 2 rows. There are a total of 6 square units.



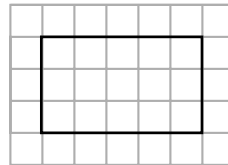
Practice:

Find the number of small squares inside of each of these rectangles.

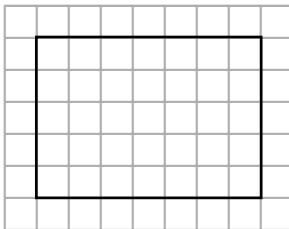
1. 6 units by 2 units _____



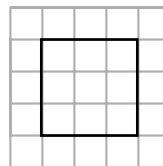
2. 5 units by 3 units _____



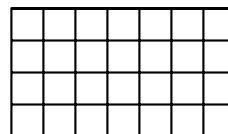
3. 7 units by 5 units _____



4. 4 units by 4 units _____



5. How many rows are in this rectangle? _____



6. How many columns are in this rectangle? _____

7. What is the total number of square units shown in this rectangle? _____

• Multiplication as Repeated Addition

- When we combine equal groups, we multiply.
- The addition $6 + 6 + 6 + 6 + 6$ is the same as 6×5 .
- Multiplication can be used to find the number of squares in a rectangular grid pattern.

Practice:

For problems **1–3**, write the addition as a multiplication, then write the total.

1. $5 + 5 + 5 + 5 + 5$ _____

2. $8 + 8 + 8 + 8$ _____

3. $6 + 6 + 6 + 6 + 6 + 6$ _____

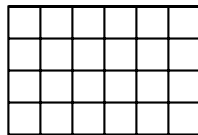
For problems **4–6**, write the multiplication as an addition, then write the total.

4. 5 times 3 _____

5. 7×6 _____

6. 2×9 _____

7. Write the multiplication and total shown by the rectangle.



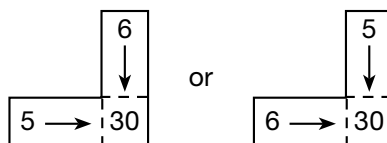
• Multiplication Table

- A **multiplication table** is a list of the numbers we say when we count by ones, twos, threes, fours, and so on.
- The two numbers that are multiplied are called **factors** and the answer is the **product**.

$$6 \times 5 = 30$$

factor \times factor = product

- To find the product on the multiplication chart, we look where a row and a column meet.



Practice:

Use the multiplication table to find each product.

1. 4×8 _____ 2. 5×7 _____ 3. 3×9 _____

4. 8×8 _____ 5. 9×1 _____ 6. 8×7 _____

7. 7×7 _____ 8. 2×12 _____ 9. 9×5 _____

10. What is the value of 9 dimes? _____

11. There are three feet in one yard.
How many feet are in 5 yards? _____

12. How many small squares are
in a 9-unit-by-7-unit rectangle? _____

• Multiplication Facts: 0s, 1s, and 10s

- When 0 is a factor, the product is 0 no matter what the other factor is.
 - When 1 is a factor, the product equals the other factor.
 - When 10 is a factor, the product is the other factor with a zero attached.
-

Practice:

Find each product.

1. 1×8 _____

2. 1×7 _____

3. 10×5 _____

4. 1×11 _____

5. 10×7 _____

6. 9×1 _____

7. 1×0 _____

8. 10×10 _____

9. 0×5 _____

10. 8×10 _____

11. 0×7 _____

12. 12×0 _____

13. 8×1 _____

14. 10×11 _____

15. 8×0 _____

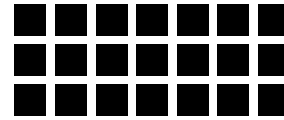
16. 0×0 _____

17. 2×10 _____

18. 10×9 _____

• **Arrays**

- An **array** is a rectangular pattern of items arranged in columns and rows.
- Rectangular arrays show multiplication facts.
- The array of squares to the right shows 7 columns and 3 rows. The multiplication fact shown by this array is 7×3 .



Practice:

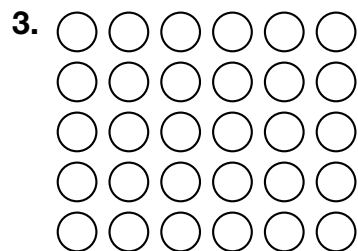
1. Draw a rectangular array of circles to show 3 columns and 6 rows. Then write a multiplication fact shown by the array. _____

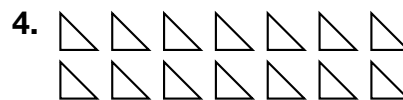
How many circles are there in all? _____

2. Draw a rectangular array of Xs to show 3 columns and 4 rows. Then write a multiplication fact shown by the array. _____

How many Xs are there in all? _____

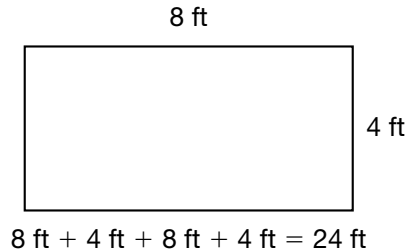
For problems **3** and **4**, write a multiplication fact shown by each array.





• Perimeter

- The distance around a shape is called its **perimeter**.
- To find the perimeter of a rectangle we add the lengths of the four sides.



Practice:

1. A rectangle has a length of 8 inches and a width of 7 inches. What is the perimeter of the rectangle? _____
2. Jake is building a fence around a garden that is 75 feet long and 50 feet wide. What is the perimeter of the garden? _____
3. A flowerbed is 5 yards long and 5 yards wide. What is the perimeter of the flowerbed? _____
4. A side of a square is 4 inches long. What is the perimeter of the square? _____
5. A football field is 330 feet long and 160 feet wide. What is the perimeter of a football field? _____

• Multiplication Facts: 2s and 5s

- The multiplication facts for 2s can be found two ways.

Here are two ways to find 5×2 .

1. Double 5.

$$5 + 5 = \mathbf{10}$$

2. Count up by 2s to the 5th number.

2, 4, 6, 8, **10**

- The multiplication facts for 5s can be found by counting by 5s. To find 5×3 we can count by 5s to the 3rd number.

5, 10, **15**

Practice:

Find each product.

1. 5×8 _____

2. 2×7 _____

3. 10×5 _____

4. 2×6 _____

5. 7×5 _____

6. 9×2 _____

7. 5×2 _____

8. 2×10 _____

9. 8×2 _____

10. 11×2 _____

11. 5×3 _____

12. 4×5 _____

• Equal Groups Stories, Part 1

- Stories about equal groups have a multiplication pattern.
- Multiplying the number of groups times the number in each group gives us the total.

$$\text{number of groups} \times \text{number in each group} = \text{total}$$

Practice:

Write an equal groups number sentence for each problem. Then answer the questions.

1. There are 12 inches in each foot.
How many inches are there in 4 feet?

2. There are 8 sides on an octagon. How
many sides are there on 5 octagons?

3. Movie tickets cost \$5 each for the matinee.
How much would 6 tickets cost?

4. A classroom has desks arranged in
5 rows with 5 desks in each row. How
many desks are in the classroom?

5. Jason mows lawns for \$7 each. How
much will he earn mowing 8 lawns?
