

Partitioning Rectangles into Rows and Columns

Name: _____

Date: _____

Score: _____ / 24

Q Quick Review

We can split a rectangle into equal-size squares. The squares line up in **rows** (going across) and **columns** (going up and down). To find how many squares there are in all, you can **count them** or you can **skip-count** the rows. If a rectangle has 3 rows with 4 squares in each row, you skip-count 4, 8, 12 to get 12 squares. This is the same as $3 + 4 + 4 + 4$ or 3 groups of 4. Equal rows and equal columns make counting fast and fair!

◇ **Example:** A rectangle is split into 2 rows with 5 squares in each row. How many squares are there in all?
 ⇒ Each row has the same number of squares, which makes this easy. There are 2 rows, and each row has 5 squares. Let's skip-count the rows: row one has 5, and row two brings us to 10. We can also add: $5 + 5 = 10$. So the rectangle is made of 10 equal squares in all.

Answer: 10 squares

PRACTICE

Find the number of squares, rows, or columns as asked.

- A rectangle has 2 rows of 3 squares. How many squares in all? _____
- A rectangle has 3 rows of 3 squares. How many squares in all? _____
- A rectangle has 2 rows of 4 squares. How many squares in all? _____
- A rectangle has 4 rows of 2 squares. How many squares in all? _____
- A rectangle has 3 rows of 4 squares. How many squares in all? _____
- A rectangle has 5 rows of 2 squares. How many squares in all? _____
- A rectangle has 2 rows of 6 squares. How many squares in all? _____
- A rectangle has 4 rows of 3 squares. How many squares in all? _____
- A rectangle has 3 rows of 5 squares. How many squares in all? _____
- A rectangle has 5 rows of 4 squares. How many squares in all? _____
- A rectangle has 4 rows of 4 squares. How many squares in all? _____
- A rectangle has 6 rows of 2 squares. How many squares in all? _____
- A rectangle has 12 squares in 3 equal rows. How many in each row? _____
- A rectangle has 10 squares in 2 equal rows. How many in each row? _____
- A rectangle has 8 squares in 4 equal columns. How many in each column? _____
- A rectangle has 3 rows. Each row has the same squares as the others. The rows are _____. _____
- A rectangle has 9 squares in 3 equal rows. How many in each row? _____
- Squares that go across in a rectangle make a _____. _____
- Squares that go up and down in a rectangle make a _____. _____
- A rectangle has 2 rows of 5 and 1 more row of 5. How many squares in all? _____

◆ Word Problems

- Sofia is making a chocolate bar. She breaks it into 3 rows with 4 pieces in each row. How many pieces of chocolate does she have in all? _____
- Mr. Lee sets up chairs in the gym. He puts them in 5 rows with 4 chairs in each row. How many chairs are there in all? _____



23. Emma planted 12 flowers in a garden box. She wants them in 2 equal rows. How many flowers should go in each row?

24. Jack drew a grid with 4 rows and 3 columns of squares. He colored every square blue. How many blue squares did he make?



Answer Keys

- | | |
|-------------------------------------|---------------------------------------------|
| 1. <input type="text" value="6"/> | 13. <input type="text" value="4"/> |
| 2. <input type="text" value="9"/> | 14. <input type="text" value="5"/> |
| 3. <input type="text" value="8"/> | 15. <input type="text" value="2"/> |
| 4. <input type="text" value="8"/> | 16. <input type="text" value="equal"/> |
| 5. <input type="text" value="12"/> | 17. <input type="text" value="3"/> |
| 6. <input type="text" value="10"/> | 18. <input type="text" value="row"/> |
| 7. <input type="text" value="12"/> | 19. <input type="text" value="column"/> |
| 8. <input type="text" value="12"/> | 20. <input type="text" value="15"/> |
| 9. <input type="text" value="15"/> | 21. <input type="text" value="12 pieces"/> |
| 10. <input type="text" value="20"/> | 22. <input type="text" value="20 chairs"/> |
| 11. <input type="text" value="16"/> | 23. <input type="text" value="6 flowers"/> |
| 12. <input type="text" value="12"/> | 24. <input type="text" value="12 squares"/> |

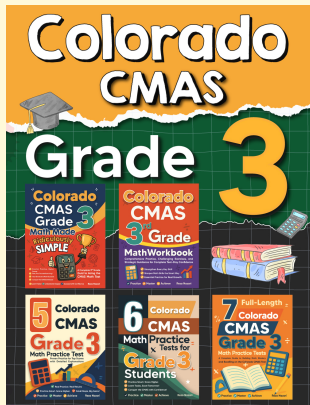
Step-by-Step Explanations

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| <p>1. Add the rows: $3 + 3 = 6$ squares.</p> <p>2. Skip-count by 3: 3, 6, 9, so there are 9 squares.</p> <p>3. Add the two rows: $4 + 4 = 8$ squares.</p> <p>4. Skip-count by 2: 2, 4, 6, 8, so there are 8 squares.</p> <p>5. Skip-count by 4: 4, 8, 12, so there are 12 squares.</p> <p>6. Skip-count by 2 five times: 2, 4, 6, 8, 10.</p> <p>7. Add the two rows: $6 + 6 = 12$ squares.</p> <p>8. Skip-count by 3: 3, 6, 9, 12, so there are 12 squares.</p> <p>9. Skip-count by 5: 5, 10, 15, so there are 15 squares.</p> <p>10. Skip-count by 4: 4, 8, 12, 16, 20.</p> <p>11. Skip-count by 4: 4, 8, 12, 16, so there are 16 squares.</p> <p>12. Skip-count by 2: 2, 4, 6, 8, 10, 12.</p> | <p>13. Share 12 squares into 3 rows: $12 \div 3 = 4$ in each row.</p> <p>14. Share 10 squares into 2 rows: $10 \div 2 = 5$ in each row.</p> <p>15. Share 8 squares into 4 columns: $8 \div 4 = 2$ in each column.</p> <p>16. When rows have the same number of squares, the rows are equal.</p> <p>17. Share 9 squares into 3 rows: $9 \div 3 = 3$ in each row.</p> <p>18. Squares lined up across the rectangle form a row.</p> <p>19. Squares lined up up-and-down form a column.</p> <p>20. That is 3 rows of 5: $5 + 5 + 5 = 15$ squares.</p> <p>21. There are 3 equal rows of 4. Skip-count by 4: 4, 8, 12. Sofia has 12 pieces.</p> <p>22. There are 5 equal rows of 4 chairs. Skip-count by 4: 4, 8, 12, 16, 20 chairs.</p> <p>23. Share 12 flowers equally into 2 rows: $12 \div 2 = 6$ flowers in each row.</p> <p>24. With 4 rows of 3 squares, skip-count by 3: 3, 6, 9, 12. He colored 12 squares blue.</p> |
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