LESSON MAKER PRO

Tile It, Multiply It

Find rectangle area by counting tiles and multiplying.

GRADE 3 · 3.MD.C.7a

CCSS.Math.Content.3.MD.C.7a "Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths."

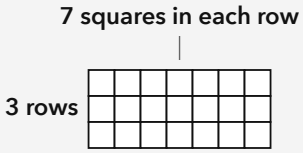
NAME _____ DATE _____

COUNT ROWS AND COLUMNS

Area tells how many square units cover a rectangle. Count the equal rows and the squares in each row, then multiply those two numbers. Tiling and multiplying give the same area.

WORKED EXAMPLE

Find the area of the rectangle shown.

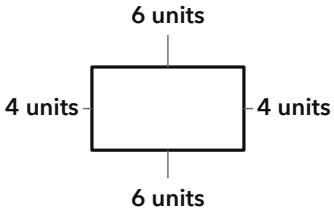


1. There are 3 rows.
2. Each row has 7 square units.
3. Multiply: 3 x 7 = 21.

Answer: 21 square units

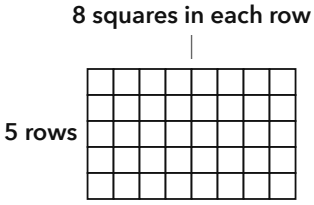
PRACTICE 6 problems

1 Find the area of the rectangle shown.



ANSWER _____

2 Find the area of the tiled rectangle shown.



ANSWER _____

3 A rectangle is 9 units long and 2 units wide. Find its area.

ANSWER _____

4 A rectangle has side lengths of 11 units and 3 units. Find its area.

ANSWER _____

5 A rectangle has 10 rows of tiles. Each row has 6 tiles. Find the area.

ANSWER _____

6 A rectangle has 4 rows with 10 square units in each row. Write a repeated-addition equation and a multiplication equation that show its area.

ANSWER _____

_____

APPLY IT Show your work

1 Noah is making a rectangular card display for his favorite trading cards. The display is 12 inches long and 5 inches wide. What is the area of the display?

WORK SPACE

ANSWER _____

2 A game board is shaped like a rectangle. It is 9 inches long and 4 inches wide. How many square inches are on the game board?

WORK SPACE

ANSWER _____

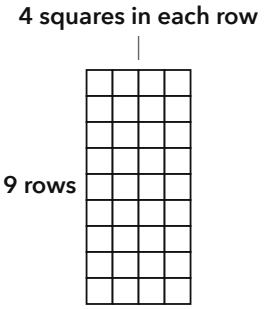
3 Tile a rectangle yourself. An adult gives you a blank paper rectangle 6 cm long and 4 cm wide, and 24 paper squares each 1 cm by 1 cm. Cover the whole rectangle with the squares, edge to edge with no gaps or overlaps. Count the tiles, then write 6 × 4. Explain why the tile count and product give the same area. Show your tiled rectangle to the adult.

WORK SPACE

ANSWER _____

CHALLENGE One step up

The array shows a tiled rectangle. Explain why repeated addition and multiplication both find the same area.



WORK SPACE AND ANSWER

ANSWER KEY

Tile It, Multiply It

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the area of the rectangle shown.	**24 square units**
2	Find the area of the tiled rectangle shown.	**40 square units**
3	A rectangle is 9 units long and 2 units wide. Find its area.	**18 square units**
4	A rectangle has side lengths of 11 units and 3 units. Find its area.	**33 square units**
5	A rectangle has 10 rows of tiles. Each row has 6 tiles. Find the area.	**60 square units**
6	A rectangle has 4 rows with 10 square units in each row. Write a repeated-addition equation and a multiplication equation that show its area.	**10 + 10 + 10 + 10 = 40; 4 x 10 = 40 square units**

PART 2 · APPLY IT

1. **60 square inches** Multiply the side lengths: 12 x 5 = 60. The display covers 60 square inches.
2. **36 square inches** Multiply the length and width: 9 x 4 = 36. The game board has an area of 36 square inches.
3. **24 tiles; 6 × 4 = 24 square centimetres. Both methods count the same 24 one-square-centimetre tiles.** Prepare the actual rectangle and unit squares before class. Check four rows of six squares or a rotated equivalent, complete coverage, counted 24 and matching product. Multiplication alone is incomplete; observe actual tiling.

CHALLENGE

There are 9 rows of 4 squares. 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 = 36, and 9 x 4 = 36, so both count the same 36 square units.

Accept either order of the factors for multiplication. For the challenge, accept a clear explanation that both methods count all 36 tiles. For Apply 3 require the actual tiled rectangle, count and product comparison. The printed completed teacher diagram is a check, not a replacement for learner tiling.

Tile It, Multiply It

Apply 3: 4 rows of 6 unit squares; 24 square centimetres.

