Area via Multiplication and Addition

Spot mistakes, reason, and work backward

Name _____ **Date** _____ **Score** _____ / 6

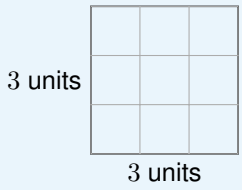
QUICK REVIEW

Find a rectangle's area by adding the number of squares in each row. Multiply the number of rows by the squares in one row to get the same area. Each unit square counts as 1 square unit.

Worked example

Write an addition equation and a multiplication equation for the area.

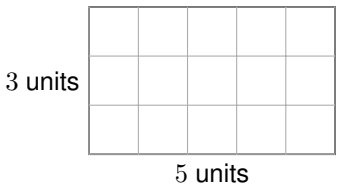
1. There are 3 rows, each containing 3 unit squares.
2. Adding row sizes gives $3 + 3 + 3 = 9$. The equal-addend form is $3 \times 3 = 9$.
Answer: $3 + 3 + 3 = 3 \times 3 = 9$ square units.



Practice Problems

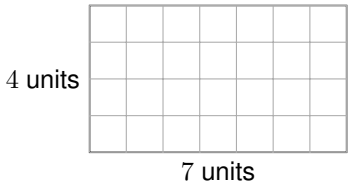
Show your thinking.

1. Ian adds the side counts: $5 + 3 = 8$. Is this the area? Write the correct repeated sum.



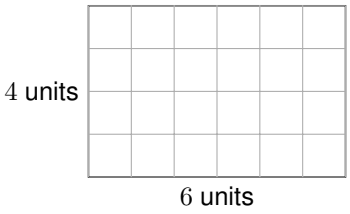
2. Each row has 4 squares and the repeated row sum is 24. How many equal rows are there? Write the multiplication.

3. Find the area by adding a 2-row part and a 2-row part. Then check with one product.

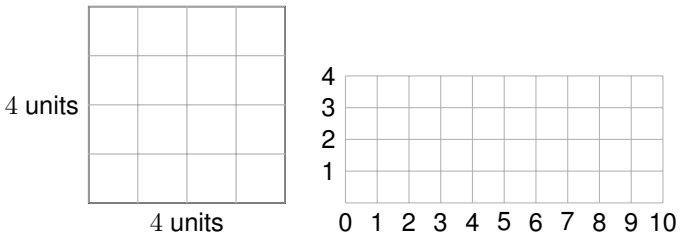


4. Each row has 3 squares and the repeated row sum is 15. How many equal rows are there? Write the multiplication.

5. Ian adds the side counts: $6 + 4 = 10$. Is this the area? Write the correct repeated sum.



6. On the blank grid, draw the 16 unit squares rearranged into exactly 2 equal rows. Write the new addition and multiplication equations. Compare with the original.



Answer Key

1. No; area 15 square units.
2. 6 rows; $6 \times 4 = 24$.
3. 28 square units.
4. 5 rows; $5 \times 3 = 15$.
5. No; area 24 square units.
6. $8 + 8 = 2 \times 8 = 16$ square units.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Adding sides counts only $5 + 3 = 8$ length units, not all the squares.

2. The 3 equal rows give $5 + 5 + 5 = 15$, or $3 \times 5 = 15$.

Problem 2

1. The missing row count solves $\square \times 4 = 24$, so $24 \div 4 = 6$.

2. Check with repeated addition: $4 + 4 + 4 + 4 + 4 + 4 = 24$.

Problem 3

1. Two rows have $2 \times 7 = 14$ squares. The other 2 rows have $2 \times 7 = 14$.

2. $14 + 14 = 28$, matching $4 \times 7 = 28$.

Problem 4

1. The missing row count solves $\square \times 3 = 15$, so $15 \div 3 = 5$.

2. Check with repeated addition: $3 + 3 + 3 + 3 + 3 = 15$.

Problem 5

1. Adding sides counts only $6 + 4 = 10$ length units, not all the squares.

2. The 4 equal rows give $6 + 6 + 6 + 6 = 24$, or $4 \times 6 = 24$.

Problem 6

1. The original has $4 \times 4 = 16$ squares. Two new equal rows need $16 \div 2 = 8$ per row.

2. Draw two adjacent rows of 8 squares. Then $8 + 8 = 16$, matching $2 \times 8 = 16$. The area does not change.

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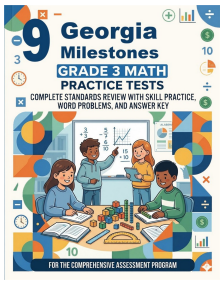

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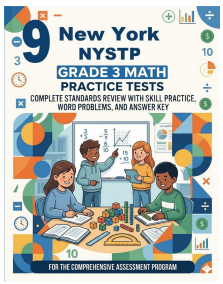

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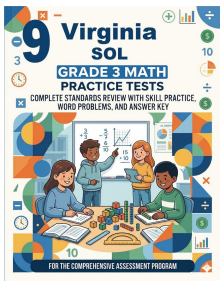

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