Tiling and the Distributive Property

Explore ideas and representations

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

QUICK REVIEW

Splitting one side makes two rectangles with the same height. Find each smaller area by multiplying the common height by its width. Add the two areas. The parts must cover the whole rectangle without overlap.

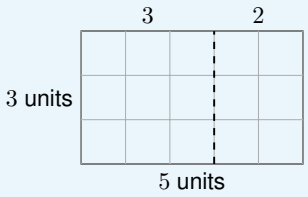
Worked example

Use the split to find two smaller areas. Then write the distributive equation for the whole rectangle.

1. The left part has area $3 \times 3 = 9$; the right part has area $3 \times 2 = 6$.

2. Add the nonoverlapping parts: $9 + 6 = 15$, equal to 3×5.

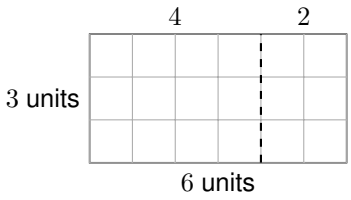
Answer: $3 \times (3 + 2) = 9 + 6 = 15$ square units.



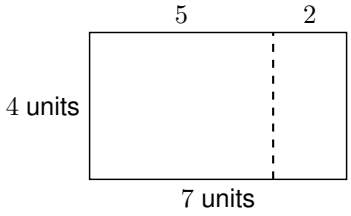
Practice Problems

Show your thinking.

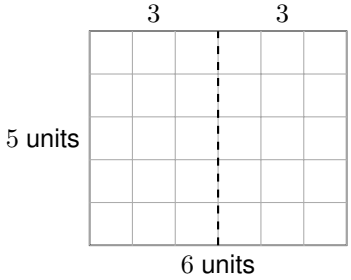
1. Use the split to find two smaller areas. Then write the distributive equation for the whole rectangle.



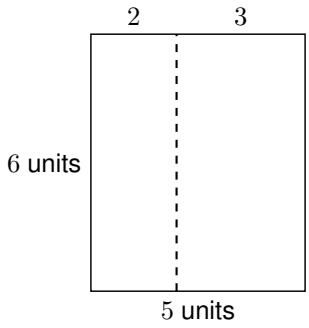
2. Use the split to find two smaller areas. Then write the distributive equation for the whole rectangle.



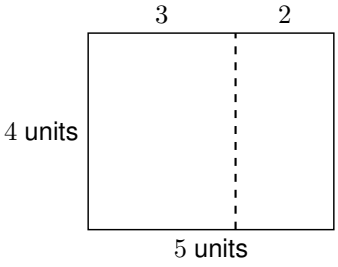
3. Use the split to find two smaller areas. Then write the distributive equation for the whole rectangle.



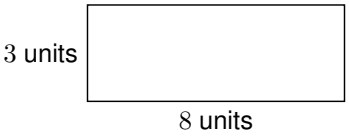
4. Use the split to find two smaller areas. Then write the distributive equation for the whole rectangle.



5. A student writes $4 \times (3 + 2) = 4 \times 3 + 2 = 14$. Repair the second part.



6. Complete $3 \times 8 = 3 \times 5 + 3 \times \square$. Find the whole area.



Answer Key

1. $3 \times (4 + 2) = 12 + 6 = 18$ square units.
2. $4 \times (5 + 2) = 20 + 8 = 28$ square units.
3. $5 \times (3 + 3) = 15 + 15 = 30$ square units.
4. $6 \times (2 + 3) = 12 + 18 = 30$ square units.
5. $4 \times 3 + 4 \times 2 = 20$.
6. $\square = 3$; area 24 square units.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The left part has area $3 \times 4 = 12$; the right part has area $3 \times 2 = 6$.
2. Add the nonoverlapping parts: $12 + 6 = 18$, equal to 3×6.

Problem 2

1. The left part has area $4 \times 5 = 20$; the right part has area $4 \times 2 = 8$.
2. Add the nonoverlapping parts: $20 + 8 = 28$, equal to 4×7.

Problem 3

1. The left part has area $5 \times 3 = 15$; the right part has area $5 \times 3 = 15$.
2. Add the nonoverlapping parts: $15 + 15 = 30$, equal to 5×6.

Problem 4

1. The left part has area $6 \times 2 = 12$; the right part has area $6 \times 3 = 18$.
2. Add the nonoverlapping parts: $12 + 18 = 30$, equal to 6×5.

Problem 5

1. The right part has height 4 and width 2, so its area is $4 \times 2 = 8$, not 2.
2. Add the true areas: $12 + 8 = 20$ square units.

Problem 6

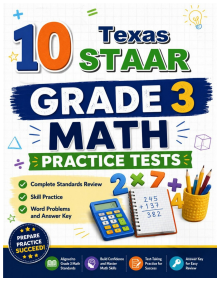
1. The remaining width is $8 - 5 = 3$.
2. The partial areas are $3 \times 5 = 15$ and $3 \times 3 = 9$; total $15 + 9 = 24$.

TESTINAR

Keep Building Grade 3 Math Skills

Choose the practice book matched to your state assessment and turn worksheet practice into a complete test-prep plan.

All Grade 3 books



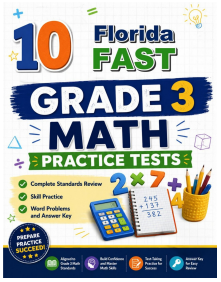
TEXAS STAAR

10 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook



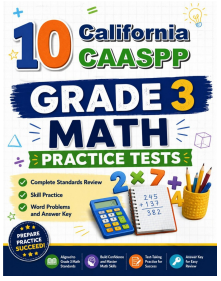
FLORIDA FAST

10 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook



CALIFORNIA CAASPP

10 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 3 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/3