MULTIPLICATION

FACT FLUENCY

EXPLORE SQUARE NUMBER FACTS

LESSON 5

The Simplified Math Curriculum™

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TODAY'S OBJECTIVE

Today we will explore square number facts.

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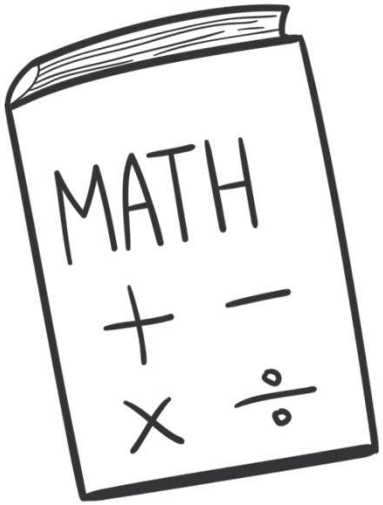
TAKE OUT YOUR

MATH JOURNALS



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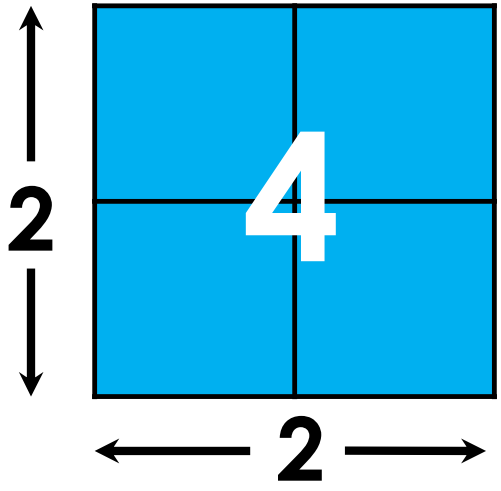
What's a square number?

When we multiply a whole number by itself, the result is a **square number**.

For example, 2 groups of 2 or 2 × 2 = 4. The number 4 is a **square number**.



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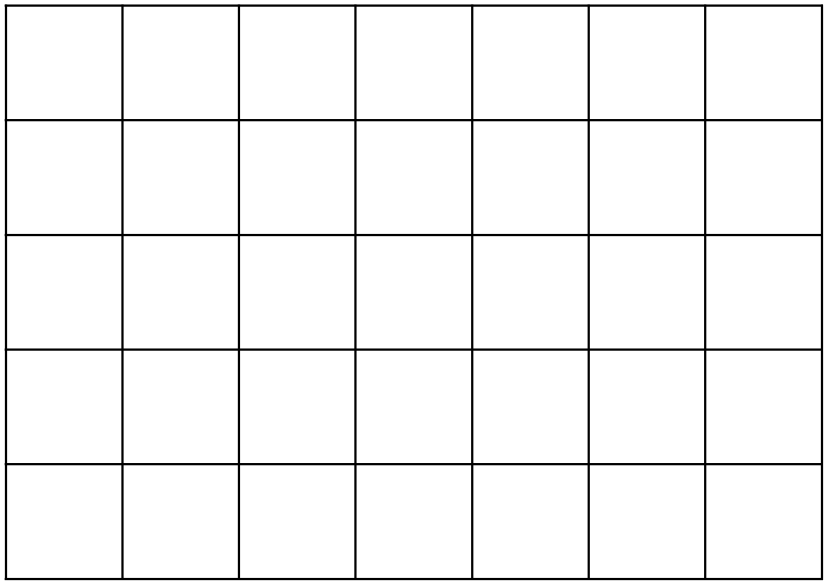
WATCH ME FIRST

Let's explore square numbers using a model.



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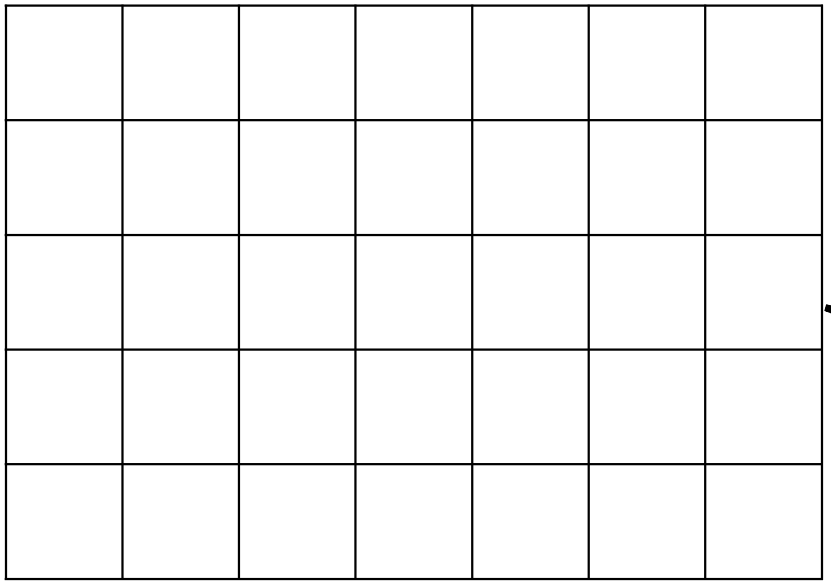
WATCH ME FIRST

Pam baked a large brownie for her family. She cut it into smaller squares: 3 squares in width by 3 squares in length. How many square pieces will she have? Solve using a model.



I'll create a model showing the total number of square pieces in Pam's brownie.

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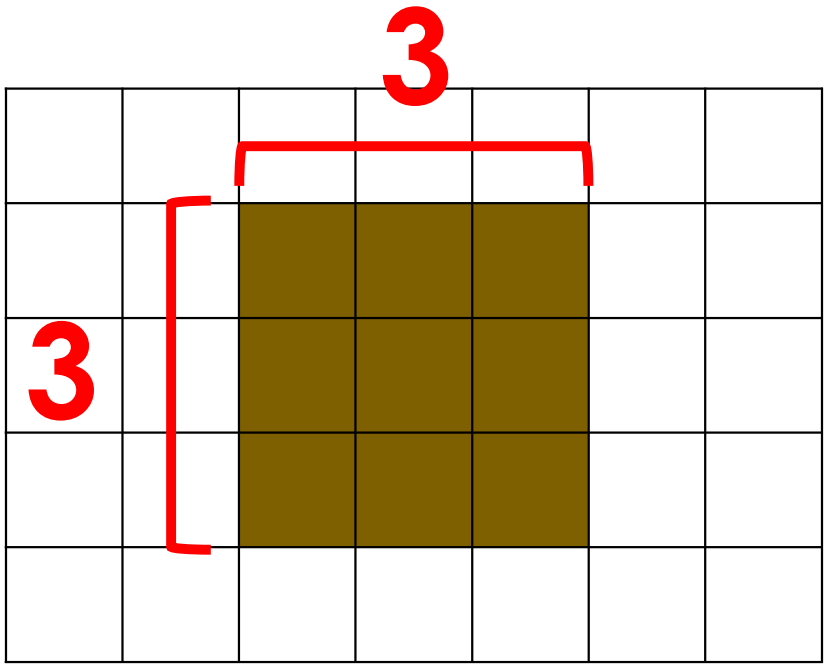
WATCH ME FIRST

Pam baked a large brownie for her family. She cut it into smaller squares: 3 squares in width by 3 squares in length. How many square pieces will she have? Solve using a model.



I know Pam's brownie is 3 squares in width and 3 squares in length. I need to make sure my model has 3 rows and 3 columns.

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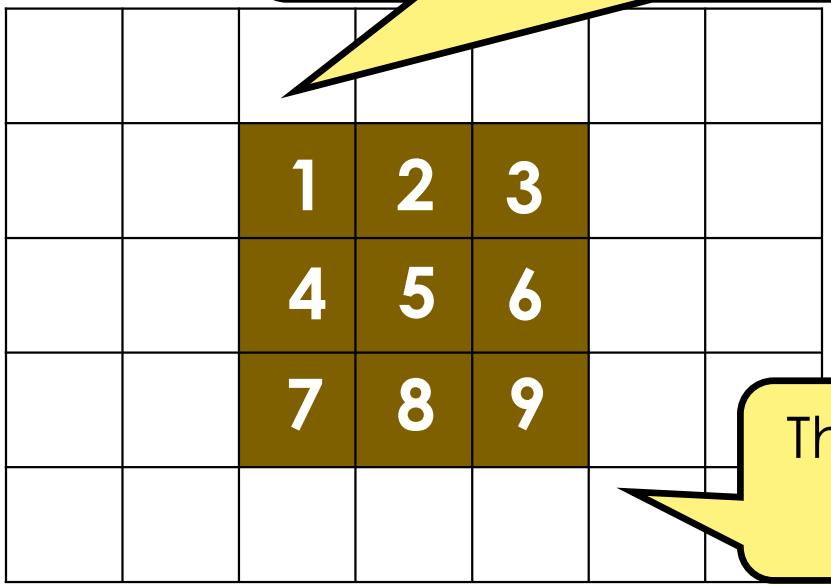
WATCH ME FIRST

Now I'll count the total number of square pieces to self-check.



There are 9 square pieces in all.
9 is a **square number**!

Square Facts

Multiplication Fact	Square Number
2 × 2 =	4

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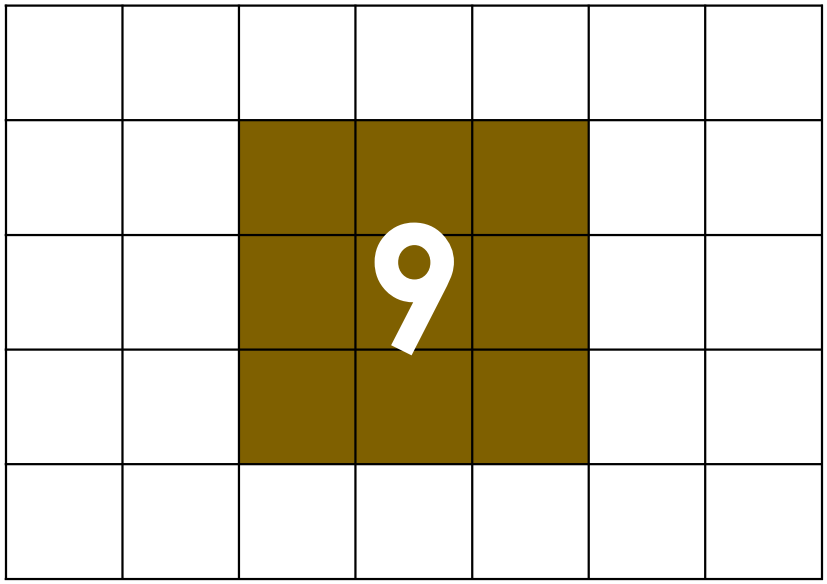
WATCH ME FIRST

Record the matching multiplication fact in your math journal.



Square Facts

Multiplication Fact		Square Number
2 × 2	=	4
3 × 3	**=**	**9**

Now let's work together to find other square facts!

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LET'S WORK TOGETHER

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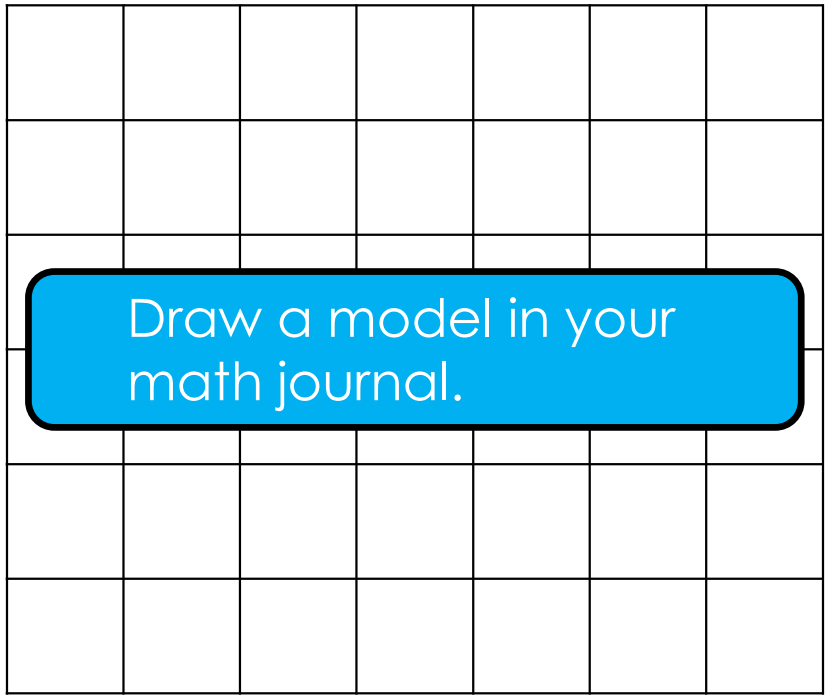
Problem #1
LET'S WORK TOGETHER

Let's find the product of **4 × 4** by using graph paper to create a model to solve and record the matching fact.



Square Facts

Multiplication Fact	Square Number
2 × 2 =	4
3 × 3 =	9
4 × 4	

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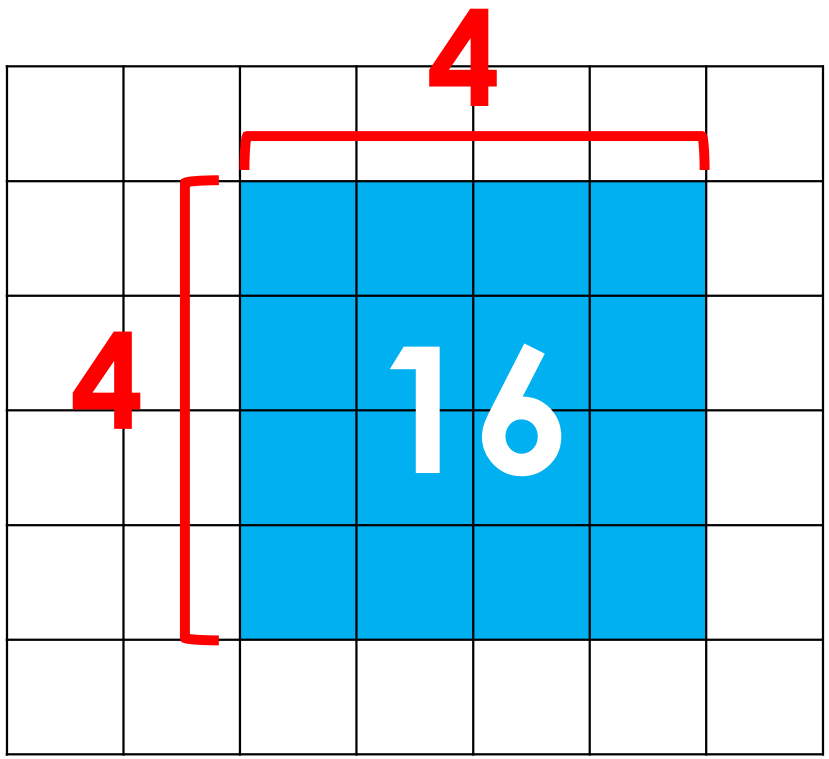
Problem #1
LET'S WORK TOGETHER

What does your model look like?
What's the product of **4 × 4**?



Square Facts	Multiplication Fact		Square Number
	2 × 2	=	4
	3 × 3	=	9
	4 × 4	**=**	**16**

Record the fact in your journal.

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LET'S DO ONE MORE TOGETHER...

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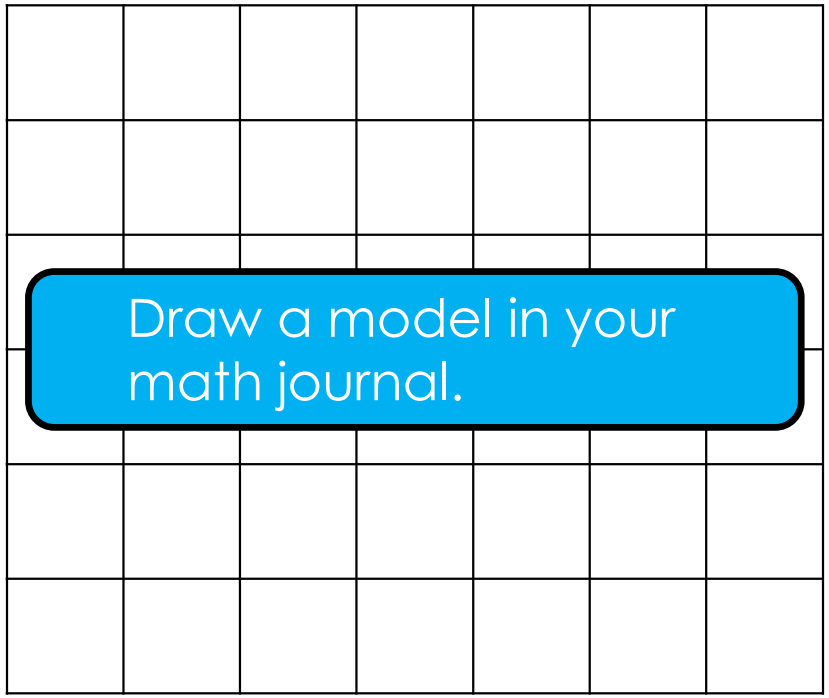
Problem #2
LET'S WORK TOGETHER

Now let's find the product of **5 x 5**.



Square Facts

Multiplication Fact		Square Number
2 × 2	=	4
3 × 3	=	9
4 × 4	=	16
5 × 5		

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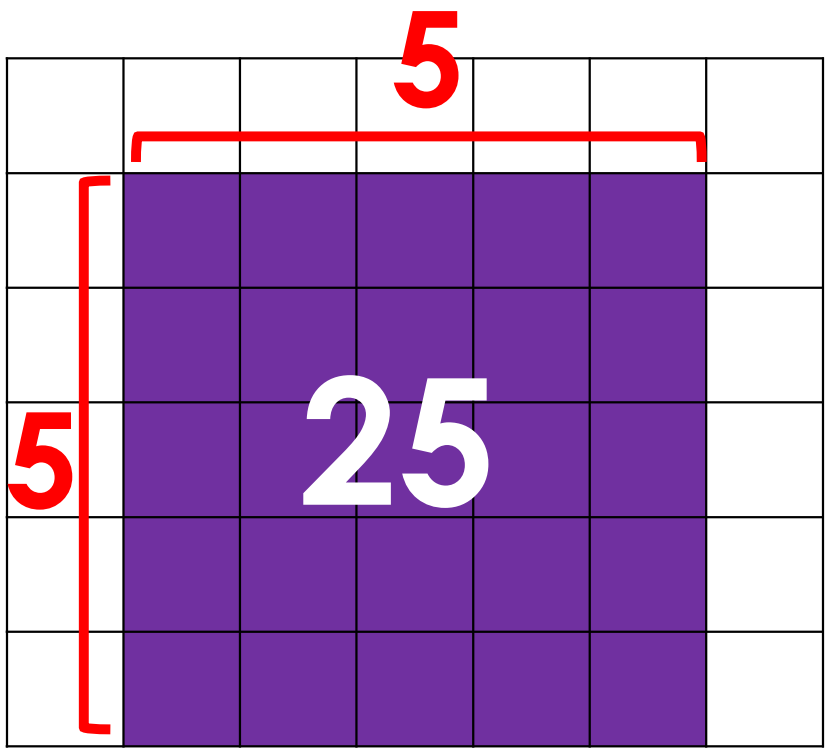
Problem #2
LET'S WORK TOGETHER

What does your model look like?
What's the product of ***5 × 5***?



Square Facts	Multiplication Fact		Square Number
	2 × 2	=	4
	3 × 3	=	9
	4 × 4	=	16
	5 × 5	=	**25**

Record the fact in your journal.

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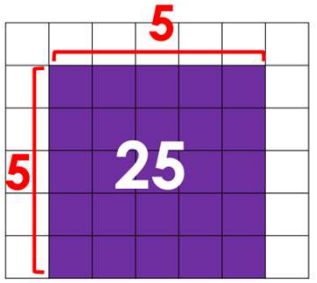
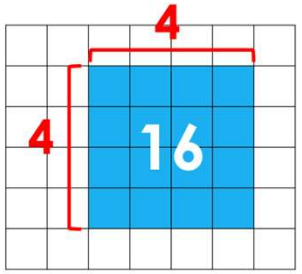
Problem #3
LET'S WORK TOGETHER

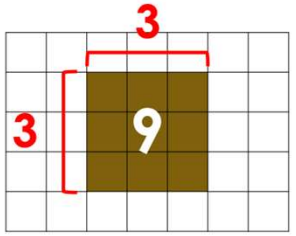
Look at your math journals to see what we've recorded so far. Why do the multiplication facts in the chart create squares?

When representing square facts with models, all the sides are the same because both factors are the same. This creates a square.

Square Facts	Multiplication Fact		Square Number
	2 × 2	=	4
	3 × 3	=	9
	4 × 4	=	16
	5 × 5	=	25







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CHECK - IN

- ❑ What did you notice?
- ❑ Can you make a connection to anything else you already know? How?
- ❑ Do you have any questions?

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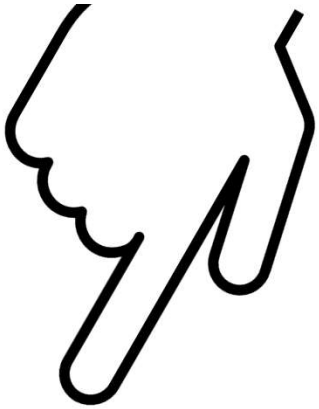

Now It's "YOUR TURN" to Solve

Don't forget to show your work!

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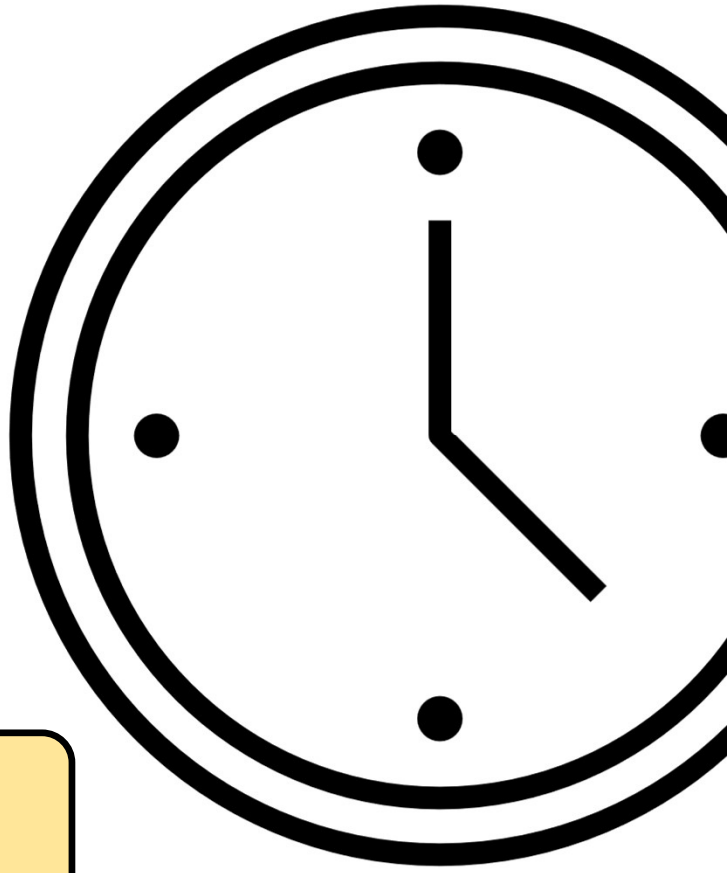
Time to Discuss and Check Your Answers



How did you solve it?

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Problem
YOUR TURN

Show 6 × 6

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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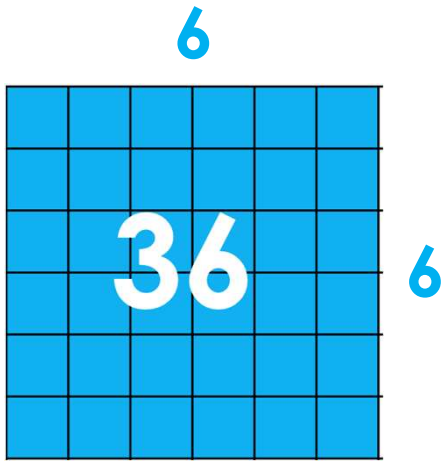
Problem
YOUR TURN

Show 6 × 6



6 groups of 6
6 × 6 = 36

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Problem
YOUR TURN

Show 7 × 7

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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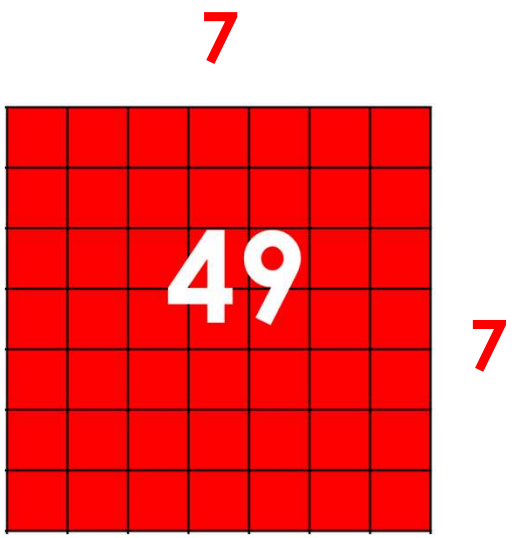
Problem
YOUR TURN

Show 7 × 7



7 groups of 7
7 × 7 = 49

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Problem
YOUR TURN

Show 8 × 8

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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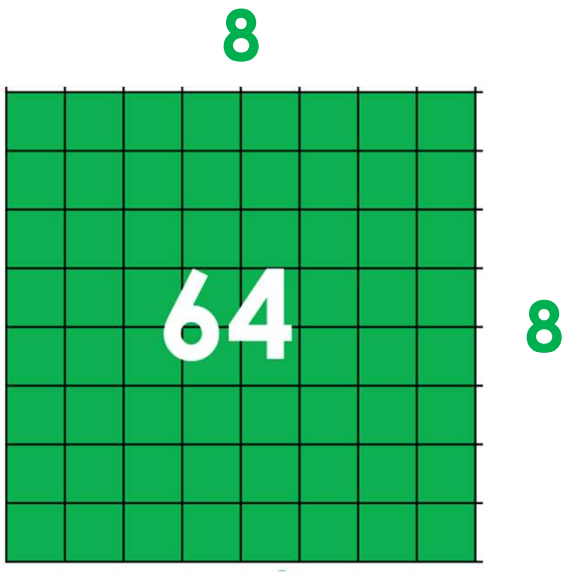
Problem
YOUR TURN

Show 8 × 8



8 groups of 8
8 × 8 = 64

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Problem
YOUR TURN

Show 9 × 9

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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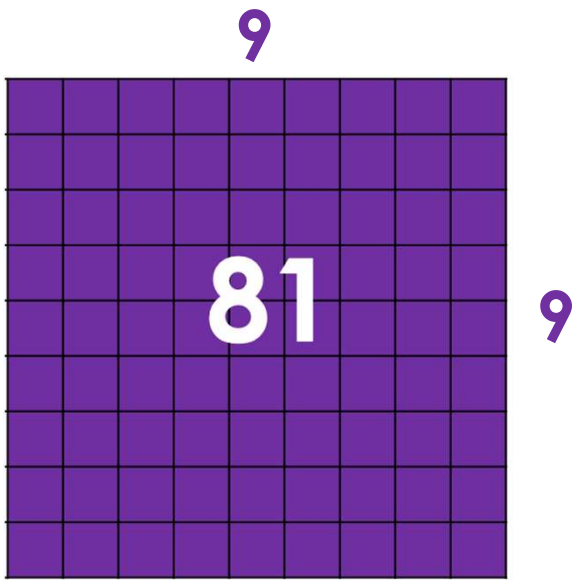
Problem
YOUR TURN

Show 9 × 9



9 groups of 9
9 × 9 = 81

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Problem
YOUR TURN

Show 10 × 10

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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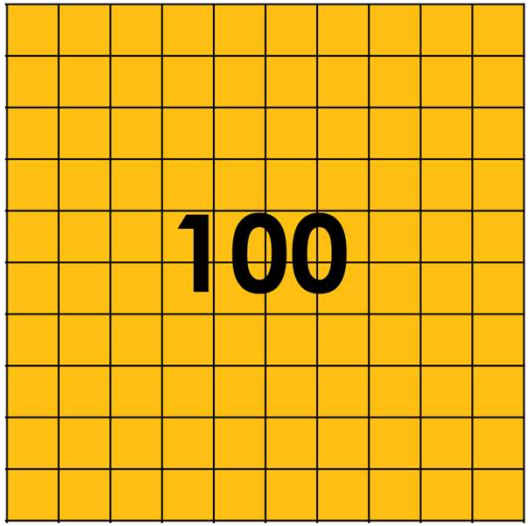
Problem
YOUR TURN

Show 10 × 10

10



10

10 groups of 10
10 × 10 = 100

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Problem
YOUR TURN

Show 11 × 11

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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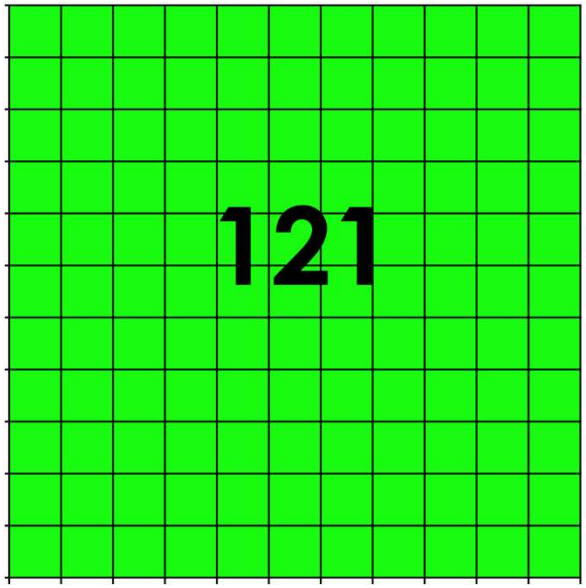
Problem
YOUR TURN

Show 11 × 11

11



11

11 groups of 11

11 × 11 = 121

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Problem
YOUR TURN

Show 12 × 12

Use the graph paper to create a model. Cut out and glue your model into your math journal. Next, fill in the blanks to record the multiplication fact.

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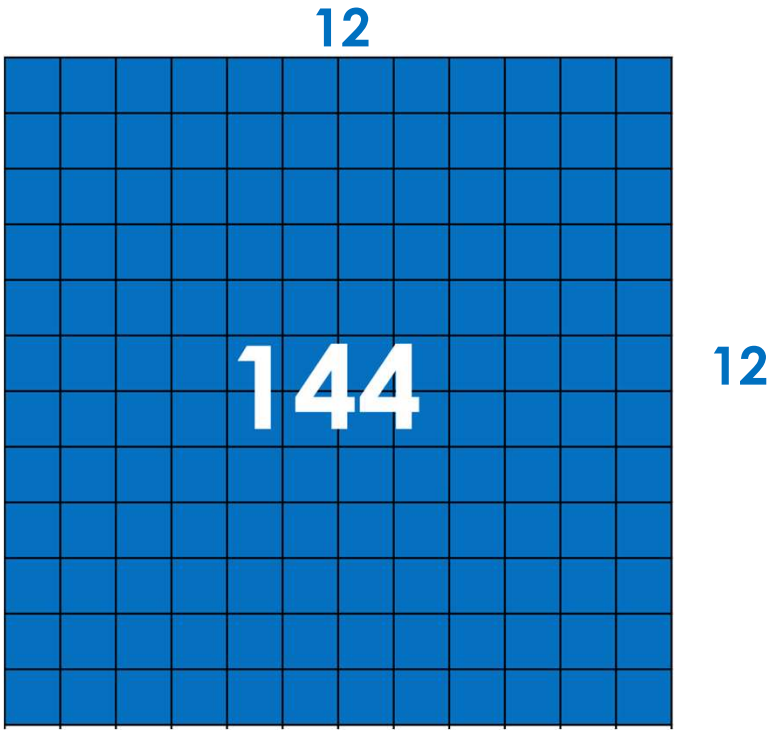
Problem
YOUR TURN

Show 12 × 12



12 groups of 12
12 × 12 = 144

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Let's Reflect

It's reflection time!

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