

4.NBT.5 Multiply 2- digit by 2-digit area models

I can multiply multi-digit numbers using various strategies:
area models & partial products

LINGO

distributive property

To give a share or part of something.

$$\begin{array}{c} 50 \times 5 \\ \swarrow \quad \searrow \\ 10 \times 5 \quad \times 5 \end{array}$$



area model

Figure used to represent area.

Example:



HOW

1. Break apart numbers into expanded form.
2. Multiply the side number(s) by the top number(s).
3. Add the products together.

	20	7
40	$40 \times 20 = 800$	$4 \times 7 = 28$
9	$9 \times 20 = 180$	$9 \times 7 = 63$

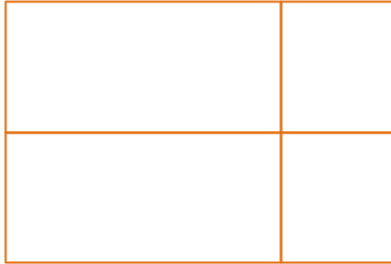
$$\begin{array}{r} 800 \\ 28 \\ 180 \\ + 63 \\ \hline 1071 \end{array}$$

PRACTICE

WHY

does it work?

12×45



1. Break apart numbers into expanded form.
2. Multiply the side number(s) by the top number(s).
3. Add the products together.

$$+ \underline{\hspace{2cm}}$$



Pssst! You've got this.

12×45

This model represents $10 \times 40 = 400$



400

This model represents $2 \times 40 = 80$



80

This model represents $10 \times 5 = 50$



50

This model represents $2 \times 5 = 10$



$$+ \underline{10}$$

540

16×24



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2. Multiply the side number(s) by the top number(s).
3. Add the products together.

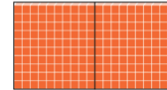
$$+ \underline{\hspace{2cm}}$$



Pssst! You've got this.

16×24

This model represents $10 \times 20 = 200$



200

This model represents $6 \times 20 = 120$



120

This model represents $10 \times 4 = 40$



40

This model represents $6 \times 4 = 24$



$$+ \underline{24}$$

384

39×48



1. Break apart numbers into expanded form.
2. Multiply the side number(s) by the top number(s).
3. Add the products together.

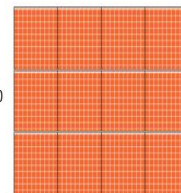
$$+ \underline{\hspace{2cm}}$$



Pssst! You've got this.

39×48

This model represents $30 \times 40 = 1200$



1200

This model represents $30 \times 8 = 240$



360

240

This model represents $9 \times 40 = 360$



This model represents $9 \times 8 = 72$



$$+ \underline{72}$$

1872