

PART I GET STARTED

Today's Mathematics

We will use area and powers of ten to multiply decimals.

Essential Question

How does place value determine the size of a decimal product?

DO NOW

1. $1.25 + 1.35$

2. $3.72 - 0.5$

3. $0.8 =$ how many tenths?

4. 27×13

SEE IT

A rectangle is 2.7 units long and 1.3 units wide. Split its sides into $2 + 0.7$ and $1 + 0.3$. Predict the area before finding all four partial products.

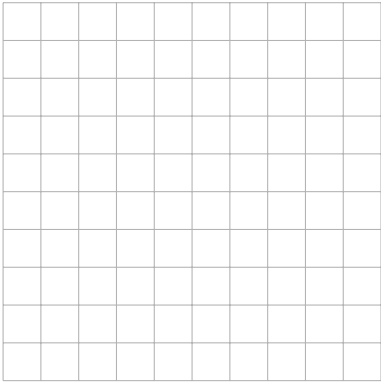
QUICK WRITE | 2 MINUTES

Why should 0.8×0.5 be smaller than 0.8?

PART II INVESTIGATE

BUILD A MODEL AND LOOK FOR A PATTERN

Find the partial areas for 2.7×1.3 . Then draw a 10-by-10 grid for 0.8×0.5 . Shade by rows and columns to see the overlap.



Partial product	Area
2×1	
2×0.3	
0.7×1	
0.7×0.3	

1. Find and explain both products.

COMPARE AND EXPLAIN

Compare 27×13 with 2.7×1.3 . Explain the factor-of-100 relationship using tenths.

PART III MAKE SENSE AND PRACTICE**WHAT WE CAN CONCLUDE**

Multiply as whole numbers, then place the decimal using the combined place values of the factors. Estimate first. Trailing zeros can be removed without changing value. Multiplying a positive number by a factor below 1 scales it down.

WORKED MODEL

$2.7 \times 1.3 = 2 + 0.6 + 0.7 + 0.21 = 3.51$. Also, $27 \times 13 = 351$, and tenths $\times$ tenths = hundredths.

MUST DO

1. 1.8×1.1

2. 4.6×1.2

3. 3.2×2.4

4. 0.07×0.6

5. A mat is 2.4 meters by 1.25 meters. Find its area.

READY FOR MORE

A student writes $0.8 \times 0.5 = 4$. Explain the scale error and verify the correct product with a model.

PART IV PUZZLE PRACTICE

Name _____

Date _____

DECODE THE MATHEMATICS REMINDER

Solve. Match each result to the answer bank. Write its letter in the numbered code boxes.

1. 2.7×1.3

2. 1.8×1.1

3. 4.6×1.2

4. 3.2×2.4

5. 0.8×0.5

6. 0.3×0.5

7. 0.7×0.6

8. 0.2×0.9

ANSWER BANK

A: 0.15 E: 0.18 M: 0.4 T: 0.42 S: 1.98 E: 3.51 T: 5.52 I: 7.68

CODE BOXES

1	2	3	4	5	6	7	8