Extending Multiplication Patterns

Use patterns to find the products.

1. 100 × 0.95 = _____

1,000 × 0.95 = _____

10,000 × 0.95 = _____

100,000 × 0.95 = _____

1,000,000 × 0.95 = _____

2. 1 × 2,689 = _____

0.1 × 2,689 = _____

0.01 × 2,689 = _____

0.001 × 2,689 = _____

0.0001 × 2,689 = _____

3. 2 × 4 = _____

20 × 4 = _____

200 × 4 = _____

2,000 × 4 = _____

20,000 × 4 = _____

4. 30 × 8 = _____

3 × 8 = _____

0.3 × 8 = _____

0.03 × 8 = _____

5. _____ × 4 = 12

_____ × 4 = 120

_____ × 4 = 1,200

_____ × 4 = 12,000

_____ × 4 = 120,000

6. 10 × 7 = _____

1.0 × 7 = _____

0.1 × 7 = _____

0.01 × 7 = _____

0.001 × 7 = _____

7. [Write Math] **Explain** how you used patterns to complete Exercise 3.

_____

_____

_____

8. Stretch Your Thinking Suppose you continue the pattern in Exercise 4. What will be the next three products?
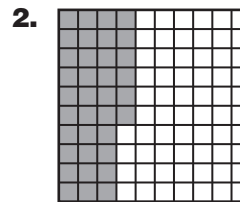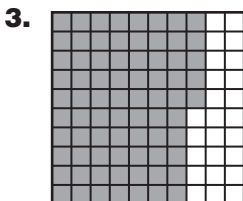
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One Product, Two Multiplication Sentences

The shaded squares in each decimal model represent the product of a whole number and a decimal. For each model, write two multiplication sentences whose products correspond to the model. The first one has been done for you.
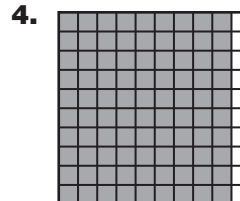
1.

$$8 \times 0.03 = 0.24$$

$$2 \times 0.12 = 0.24$$

2.

_____

_____

3.

_____

_____
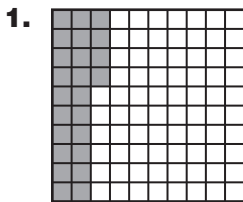
4.

_____

_____

5. Stretch Your Thinking Shade your own decimal model to represent the product of a whole number and a decimal. Then challenge a classmate to write two multiplication sentences for your model.

Connecting Decimal Multiplication and Division

Write a related multiplication sentence to find the unknown value that makes each statement true.

1. _____ $\div 6 = 0.2$

2. _____ $\div 7 = 0.5$

3. _____ $\div 7 = 0.07$

4. _____ $\div 5 = 0.05$

5. _____ $\div 8 = 9.1$

6. _____ $\div 5 = 26.72$

7. [Write Math] ▶ **Explain** how you can use the relationship between multiplication and division to complete Exercise 1.
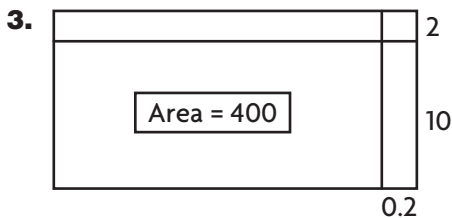
_____

_____

_____

8. Stretch Your Thinking How could you find the value that makes the statement $32.2 \div \boxed{} = 4.6$ true?
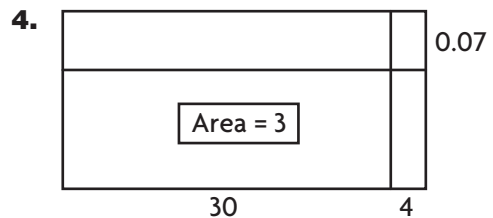
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_____

_____

_____

Analyzing Models and Partial Products

**Write the multiplication expression represented by the model.
Then find the product.**

1.

		0.03
		0.80
10	5	

_____

2.

	0.07
	0.40
20	1

_____

3.

	2
Area = 400	10
	0.2

_____

4.

	0.07
Area = 3	
30	4

_____
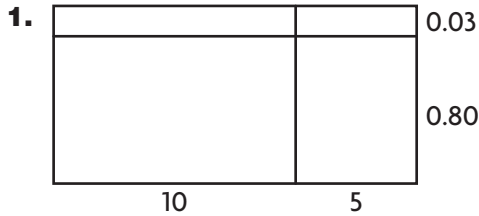
5. **Write Math** ➤ Look back at Exercise 3. **Explain** how you used the given area of the smaller rectangle to help you write the multiplication expression the model represents.

_____

_____

_____

_____

_____

Money Multiplication Problems

**Write a problem that can be represented by the model.
Then solve the problem.**

1. **T-shirt** | $15.49

   Sunglasses | $15.49 | $3.80

   _____

   _____

   _____

2. **Lemonade** | $3.50

   Salad | $3.50 | $3.50 | $3.50 | $3.50

   _____

   _____

   _____

3. **Mia** | $5.25

   Madison | $5.25 | $5.25

   Morgan | $5.25 | $5.25 | $10.89

   _____

   _____

   _____

4. **June** | $28.50

   July | $28.50 | $28.50 | $28.50

   August | $28.50 | $28.50 | $28.50 | $17.75

   _____

   _____

   _____

5. **Write Math** ➤ In Exercise 1, suppose you have $41. Would you
   have enough money to buy the items in the problem and two pairs
   of socks at $2.75 each? **Explain**.

   _____

   _____

   _____

Backward Decimal Multiplication

**Write the multiplication equation that is represented by the model.
Each equation should include the factors and their product.**

1.

_____

2.

_____

3.

_____

4.

_____

5.

_____

6.

_____
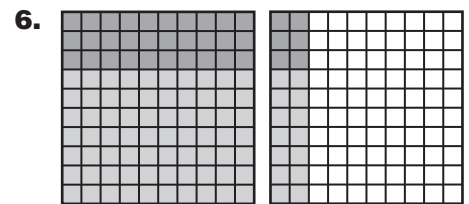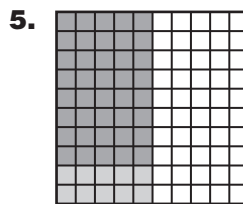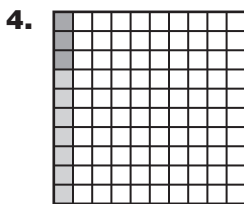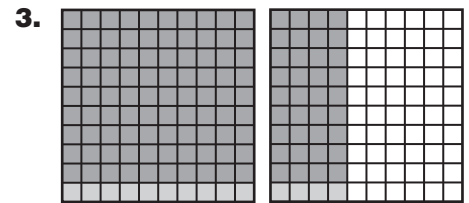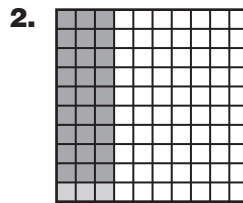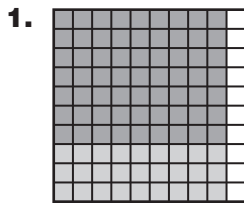
7. **Write Math** In Exercise 6, explain how you found the
multiplication equation that the model represents.

_____

_____

_____

_____

8. **Stretch Your Thinking** How can you use decimal squares to
represent the product 0×0.7? What is the product?

_____

_____

_____

Name _____

A Chain of Products

Find the product.

1. 5.4×3.2

_____

2. Multiply the product in Exercise 1 by 1.5.

_____

3. Multiply the product in Exercise 2 by 0.5.

_____

4. Multiply the product in Exercise 3 by 2.5.

_____

5. Multiply the product in Exercise 4 by 9.4.

_____

6. Multiply the product in Exercise 5 by 3.2.

_____

7. Write Math ► Which exercise has a product that is less than the product in the exercise just before it? **Explain**.

_____

_____

_____

Name _____

Multiply and Compare

Write <, >, or = in the circle to make each comparison statement true.

1. $0.6 \times 0.05 \bigcirc 0.03$

2. $0.72 \bigcirc 0.9 \times 0.08$

3. $0.3 \times 0.3 \bigcirc 0.06$

4. $\$0.20 \bigcirc 0.4 \times \$0.50$

5. $0.8 \times 0.06 \bigcirc 0.48$

6. $0.3 \times 0.09 \bigcirc 0.039$

7. $0.8 \times 0.03 \bigcirc 0.06 \times 0.4$

8. $0.05 \times 0.9 \bigcirc 0.07 \times 0.6$

9. $0.3 \times 0.12 \bigcirc 0.4 \times 0.09$

10. $0.2 \times 0.19 \bigcirc 0.8 \times 0.05$

11. Write Math ➤ **Explain** how you completed Exercise 10.

_____

_____

_____

_____

_____