## Unit 5 Lesson 6: Methods for Multiplying Decimals

### 1 Equivalent Expressions (Warm up)

#### Student Task Statement

Write as many expressions as you can think of that are equal to 0.6. Do not use addition or subtraction.

### 2 Using Properties of Numbers to Reason about Multiplication

#### Student Task Statement

Elena and Noah used different methods to compute $(0.23)⋅(1.5)$. Both calculations were correct.



1. Analyze the two methods, then discuss these questions with your partner.
	* Which method makes more sense to you? Why?
	* What might Elena do to compute $(0.16)⋅(0.03)$? What might Noah do to compute $(0.16)⋅(0.03)$? Will the two methods result in the same value?
2. Compute each product using the equation $21⋅47=987$ and what you know about fractions, decimals, and place value. Explain or show your reasoning.
	1. $(2.1)⋅(4.7)$
	2. $21⋅(0.047)$
	3. $(0.021)⋅(4.7)$

### 3 Using Area Diagrams to Reason about Multiplication (Optional)

#### Images for Launch



#### Student Task Statement

1. In the diagram, the side length of each square is 0.1 unit.
	1. Explain why the area of each square is *not* 0.1 square unit.
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	1. How can you use the area of each square to find the area of the rectangle? Explain or show your reasoning.
	2. Explain how the diagram shows that the equation $(0.4)⋅(0.2)=0.08$ is true.
2. Label the squares with their side lengths so the area of this rectangle represents $40⋅20$.
	1. What is the area of each square?
	2. Use the squares to help you find $40⋅20$. Explain or show your reasoning.
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1. Label the squares with their side lengths so the area of this rectangle represents $(0.04)⋅(0.02)$.
* Next, use the diagram to help you find $(0.04)⋅(0.02)$. Explain or show your reasoning.
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