Apply Properties of Multiplication to Decimals

Florida's B.E.S.T.

- Number Sense & Operations 5.NSO.2.4, 5.NSO.2.5
- Mathematical Thinking & Reasoning MTR.1.1, MTR.2.1, MTR.3.1, MTR.5.1

(I Can) use properties of multiplication to solve problems.

You can use the properties of multiplication to help you evaluate numerical expressions more easily.

Properties of Multiplication	
Commutative Property of Multiplication	
If the order of factors changes, the product stays the same.	$3.6 \times 4.25 = 4.25 \times 3.6$
Associative Property of Multiplication	
If the grouping of factors changes, the product stays the same.	$1.2 \times (3 \times 5.64) = (1.2 \times 3) \times 5.64$
Identity Property of Multiplication	
The product of any number and 1 is that number.	$7.982 \times 1 = 7.982$
Zero Property of Multiplication	
The product of any number and 0 is 0.	$9.6 \times 0 = 0$



UNLOCK the Problem



Kalea purchases 1.5 rows of seats for the play. Each row has 8 seats. If every seat costs \$6.25, how much did she pay?



Use properties to find 8 \times 6.25 \times 1.5.

$$8\times6.25\times1.5=6.25\times___\times1.5$$

Property to group the factors. Use the

Use mental math to multiply.

Kalea pays \$ _____ for the seats.



MTR Engage in discussions on 4.1 mathematical thinking.

Explain why grouping 8 and 1.5 makes the problem easier to solve.

Example 1 Use the Distributive Property to find the product.

One Way Use addition.

$$8 \times 3.6 = 8 \times (\underline{} + 0.6)$$

 $= (\times 3) + (8 \times)$

= ____+ _____

Write 3.6 as a sum of a whole number and a decimal.

Use the Distributive Property.

Use mental math to multiply.

Use mental math to add.

Another Way Use subtraction.

$$8 \times 3.6 = 8 \times ($$
 - 0.4)

 $= (\times 4) - (8 \times)$

Write 3.6 as a difference of a whole number and a decimal.

Use the Distributive Property.

Use mental math to multiply.

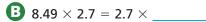
Use mental math to subtract.

Example 2 Complete the equation, and tell which property you used.



Think: A number times 1 is equal to itself.

Property: _____



Think: Changing the order of factors does not change the product.

Property: _____



MTR Engage in discussions on 4.1 mathematical thinking.

Explain how to use the Distributive Property to find the product 6×7.99 .