Name:_____ Date:_____
Notes
Algebra Section 2.4
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Goal: "Multiply real numbers"

Multiplication:

Negative X Negative=Positive Negative X Positive=Negative Positive X Negative=Negative

Ex: $-12(-10) = 120$

Ex: $5(-8) = -40$

Try These:

Ex: $-3(6) = -18$ **Ex:** $2(-4)(-3) = 24$ **Ex:** $-\frac{1}{2}(-4)(-3) = -6$

Ex: $-2(-7) = 14$ **Ex:** $-0.5(-4)(-9) = -18$ **Ex:** $\frac{4}{3}(-3)(7) = -28$

Properties:

Commutative Property: The order in which you multiply two numbers does not change the product.
Example: $a \cdot b = b \cdot a$ and $6 \cdot 3 = 3 \cdot 6$

Associative Property: The way you group three numbers in a multiplication problem does not change the product.
Example: $(a \cdot b) \cdot c = a \cdot (b \cdot c)$ and $(5 \cdot 6) \cdot 2 = 5 \cdot (6 \cdot 2)$

Identity Property: The product of a number and one is that number.
Example: $a \cdot 1 = a$ and $(-5) \cdot 1 = -5$

Property of Zero: The product of a number and zero is zero.
Example: $a \cdot 0 = 0$ and $(7) \cdot 0 = 0$

Property of -1: The product of a number and -1 is the opposite of the number.
Example: $a \cdot (-1) = -a$ and $(-4) \cdot (-1) = 4$

Try These:
Identify the property illustrated.

Ex: $-1 \cdot 8 = -8$
Property of -1

Ex: $12 \cdot x = x \cdot 12$
Commutative Property

Ex: $(y \cdot 4) \cdot 9 = y \cdot (4 \cdot 9)$
Associative Property

Ex: $0 \cdot (-41) = 0$
Property of Zero

Ex: $-5 \cdot (-6) = -6 \cdot (-5)$
Commutative Property

Ex: $-13 \cdot (-1) = 13$
Property of -1

Word Problems:
Ex: In 1900 the elevation of Mono Lake, CA was about 6416 feet. From 1900 to 1950, the average rate of change in elevation was about –0.12 feet/year. From 1950 to 2000 the average rate of change was about –0.526 feet/year.

a) Find the elevation in the year 1950. 6410 feet

b) Find the elevation in the year 2000. 6383.7 feet

Ex: The table gives the daily minimum temperatures (in degrees Fahrenheit) in Barrow, Alaska, for the first five days of February 2004. Find the mean daily minimum temperature.

Day in Feb.	1	2	3	4	5
Min. Temp.	–21	–29	–39	–39	–22

$-30°F$