

## Lesson #2

### Multiplication and Division of Real Numbers

#### Rules for Multiplying and Dividing Real Numbers

- The product or quotient of two numbers with the \_\_\_\_\_ sign is \_\_\_\_\_.
- The product or quotient of two numbers with \_\_\_\_\_ signs is \_\_\_\_\_.
- The product of an even number of negative factors is \_\_\_\_\_.
- The product of an odd number of negative factors is \_\_\_\_\_.

1.  $(-8)(-10) = \underline{\hspace{2cm}}$

2.  $(-8)(10) = \underline{\hspace{2cm}}$

3.  $-45 \div 9 = \underline{\hspace{2cm}}$

4.  $-45 \div (-9) = \underline{\hspace{2cm}}$

5.  $(-1)(-2)(-3)(-4) = \underline{\hspace{2cm}}$

6.  $(-1)(-2)(-3)(4) = \underline{\hspace{2cm}}$

7.  $(-1)^4 = \underline{\hspace{2cm}}$

8.  $(-1)^5 = \underline{\hspace{2cm}}$

## Multiplication Practice!

9.  $(-6)(-8) = \underline{\hspace{2cm}}$

10.  $(4)(-7) = \underline{\hspace{2cm}}$

11.  $(-4)(15p) = \underline{\hspace{2cm}}$

12.  $(-1)(-x) = \underline{\hspace{2cm}}$

13.  $|(-2)(21)| = \underline{\hspace{2cm}}$

14.  $(-2)(-3)(-5) = \underline{\hspace{2cm}}$

15.  $(-4)^2 = \underline{\hspace{2cm}}$

16.  $-4^2 = \underline{\hspace{2cm}}$

17.  $(-8x)(-7x) = \underline{\hspace{2cm}}$

18.  $\left(\frac{1}{3}a\right)\left(-\frac{2}{5}a\right)\left(\frac{3}{4}a\right) = \underline{\hspace{2cm}}$

19.  $\left(-\frac{1}{4}b\right)\left(-\frac{1}{5}b\right)\left(\frac{1}{2}b\right) = \underline{\hspace{2cm}}$

### Division Rule

To divide a number  $a$  by a nonzero number  $b$ , multiply  $a$  by the reciprocal of  $b$ .

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The result is the quotient of  $a$  and  $b$ .

## Division Practice!

20.  $\frac{2}{3} \div -\frac{1}{2} = \underline{\hspace{2cm}}$

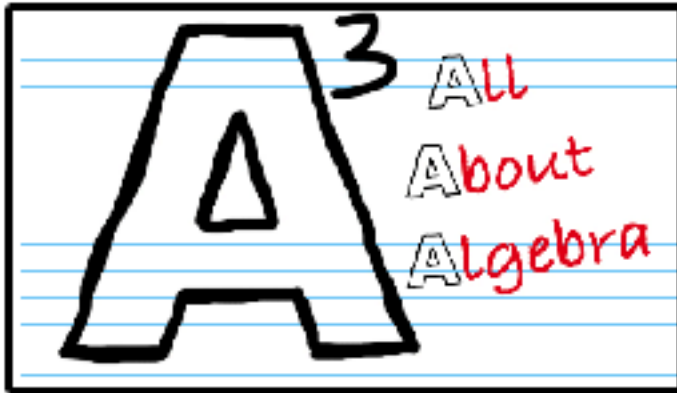
When dividing fractions, think  
**Stay Change Flip!**

21.  $4x \div -\frac{1}{2} = \underline{\hspace{2cm}}$

22.  $-\frac{x}{4} \div 3 = \underline{\hspace{2cm}}$

23.  $84x \div -\frac{4}{5} = \underline{\hspace{2cm}}$

24.  $-\frac{3}{4} \div 4 = \underline{\hspace{2cm}}$



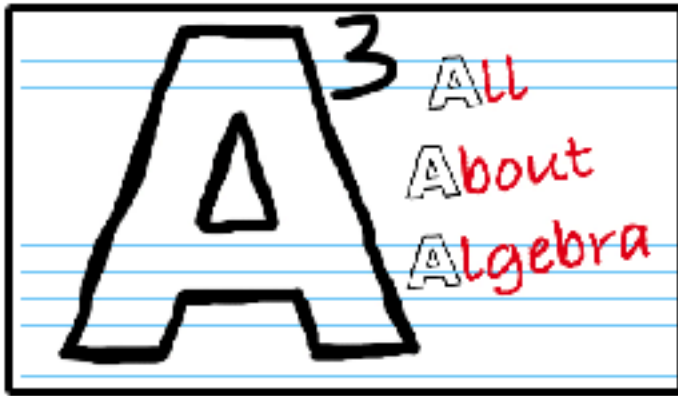
## Evaluating Expressions

25.  $2x^2 - 4x$ , when  $x = -3$

26.  $3x + x^2$ , when  $x = -7$

27.  $-7x - (-4x^3)$ , when  $x=4$

28.  $\frac{r-4}{s}$ , when  $r=24$  and  $s=\frac{1}{2}$



*Just for FUN!*

## Summer Vacation

During the summer vacation, Kathy, Wally, Carolyn and Gary worked together picking peaches. At the end of the season, they compared the amount of peaches that they each had picked. They made note of the following facts:

1. Wally picked more than Kathy and Carolyn together.
2. The total of what Kathy and Wally picked just equaled the amount picked by Carolyn and Gary.
3. The total picked by Gary and Carolyn was more than the total picked by Wally and Carolyn.

Arrange the names of the people in the order of the amount of peaches that each person picked, starting with the person who picked the most!

## Solution to Desert Trek

3 people. Persons A, B and C.

Day 1: Persons A, B and C eat Person A's food/water.

Day 2: Person A returns using own remaining food/water.  
Persons B and C each eat B's food/water.

Day 3: Person B returns using own remaining food/water.  
Person C begins his own food/water.

Day 4 and Day 5: C eats own food/water.

Day 6: C eats own food and arrives at destination.