When adding or subtracting real numbers, you must be careful. Multiplication and division of real numbers is easier.

$5 \cdot 3 = 15$ $(-5) \cdot 3 = \underline{}$

$5 \cdot 2 = 10$ $(-5) \cdot 2 = \underline{}$

$5 \cdot 1 = 5$ $(-5) \cdot 1 = \underline{}$

$5 \cdot 0 = 0$ $(-5) \cdot 0 = 0$

$5 \cdot (-1) = \underline{}$ $(-5) \cdot (-1) = \underline{}$

$5 \cdot (-2) = \underline{}$ $(-5) \cdot (-2) = \underline{}$

$5 \cdot (-3) = \underline{}$ $(-5) \cdot (-3) = \underline{}$

The product of a positive number and a negative number is _____

The product of a negative number and another negative number is _____

The old saying is that two negatives make a positive.
The same applies when dividing.

Fill in the blank: $a \cdot \underline{} = 0$ for all a.

EXAMPLE: Find each product or quotient.

a.) $-1\frac{1}{8}\left(-\frac{3}{8}\right)$ b.) $(-2)(-2)(-2)$ c.) $3(-2)(0)(9)$ d.) $-0.03056(-1000)$

If a positive **times** a negative is a negative, is it true that a positive **plus** a negative is negative? _____

The multiplicative inverse of a number is found by inverting the number.

The multiplicative inverse of $\frac{4}{7}$ is $\frac{7}{4}$. The product of $\frac{4}{7}$ and $\frac{7}{4}$ is _____.

The multiplicative inverse of 200 is _____.

The multiplicative inverse of $-\frac{17}{10}$ is _____.

The Meaning of Division:
   We think of division as the **opposite** of multiplication. When we divide, we multiply by the inverse of the divisor.

$\dfrac{3}{4} \div \dfrac{5}{8} = \dfrac{3}{4} \cdot \underline{}$ $\dfrac{320}{-20} = 320 \div (-20) = 320 \cdot \underline{}$

$= \underline{}$ $= \dfrac{320}{1} \cdot \dfrac{1}{-20} = \underline{}$