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# Multiplying and Dividing Integers

## Do Now:

1.  $3(8 - 2) + 12$

$3(6) + 12$

$18 + 12 = 30$

2.  $\frac{17-12}{5} + (4 - 2)$

$\frac{5}{5} + (2)$

$1 + 2 = 3$

3.  $14 + (-11) = 3$

4.  $9 - (-8) = 17$

5. Draw a visual solution to the following two problems.

a.  $-6 - (-1)$



removing 1 negative leaves 5 negatives

b.  $3 + (-5)$

☒ Add integers    ☐ Subtract integers

$3 + (-5) = -2$

Value of first integer

Value of second integer

ExplorLearning

## **Multiplying and Dividing Integers**

**Inverse Operations Definition:** Inverse operations undo each other. Multiplication and division are inverse operations. Addition and subtraction are also inverse operations.

Ex. Since  $6 \div 3 = 2$ , we know that  $2 \cdot 3 = 6$

### Rules for Multiplying and Dividing Integers

- Multiplication and division are performed as always with following rules for sign
  - (negative)(negative)=(positive)      (negative) $\div$ (negative)=(positive)
  - (positive)(positive)=(positive)      (positive) $\div$ (positive)=(positive)
  - (negative)(positive)=(negative)      (negative) $\div$ (positive)=(negative)
  - (positive)(negative)=(negative)      (positive) $\div$ (negative)=(negative)