

**Simplify** each expression. You may not just follow the order of operations. You must change the problem using one of the properties to make the math easier. (Use your notes to help if you get stuck!)

➤ Show all of your steps AND name the property

**Examples:**

$$\begin{array}{r} 37 + 59 + 13 \\ \quad \quad \quad \nearrow \\ 37 + 13 + 59 \\ \quad \downarrow \\ 50 + 59 \\ \quad \downarrow \\ \boxed{109} \end{array} \quad \text{REORDER}$$

### Commutative Prop +

$$(8\frac{1}{2} \cdot \frac{5}{3}) \cdot \frac{3}{5} \quad \text{Re-group}$$

$$8\frac{1}{2} \cdot 1$$

$$\boxed{8\frac{1}{2}}$$

ASSOCIATIVE PROP. X  
AND IDENTITY PROP X

1)  $-4 \cdot (5 \cdot 17) =$

2)  $\frac{3}{4} + \frac{2}{3} + \frac{1}{4} =$

3)  $-23 + 15 + (-7) + 5 =$

(name of property used)

(name of property used)

(name of property used)

4)  $3\frac{1}{3} + (6\frac{2}{3} + \frac{5}{8}) =$

5)  $4.5 + 13.7 + 0.5 + 0.3 =$

$$6) \left(-\frac{1}{3} \cdot \frac{5}{8}\right) \cdot \frac{8}{5} =$$

(name of property used)

(name of property used)

(name of property used)

OVER →

7)  $3.7 + (1.3 + (-6.1)) =$

8)  $(-5.7 \cdot 0.8) \cdot 5 =$

9)  $\frac{3}{4} \cdot 3\frac{1}{3} \cdot 1\frac{1}{3} =$

\_\_\_\_\_  
(name of property used)

\_\_\_\_\_  
(name of property used)

\_\_\_\_\_  
(name of property used)

***Which property is shown?***

$-2y + (-3y + (-8y)) = -2y + (-8y + (-3y))$

***Explain how you know it's that property:***

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