

## Algebra 4-1: Subtraction of Real Numbers

### Warm-Up

1. How can we write  $4 - 12$  as an addition problem?  $4 + -12$
2. Give an example of the associative property of addition?  $(1 + 2) + 3 = 1 + (2 + 3)$

### Subtracting Real Numbers

We can change a subtraction expression into an addition expression by

adding the opposite.

#### Examples

1. Can we use the associative property with subtraction? Explain.

$$(3 - 2) - 1 = 3 - (2 - 1)$$

$$1 - 1 = 3 - 1$$

$$0 \neq 2$$

NOPE!

2. Change  $-6 - (-y)$  into an addition problem.

$$-6 + y$$

3. Simplify  $-4x + 6y - 8 - (-3x) - 7y$ .

$$\underline{-4x} + \underline{6y} - 8 + \underline{3x} - \underline{7y} = -1x + -1y - 8 \text{ or } \boxed{-x - y - 8}$$

or  
 $-1x + -y + -8$

4. The coldest temperatures recorded in the world have been in Antarctica. Suppose a temperature of  $-50^\circ\text{C}$  is recorded there. If then temperature then falls 30, what is the new temperature?

$$-50^\circ - 30^\circ = -80^\circ\text{C}$$

$$-50 + -30 = -80$$