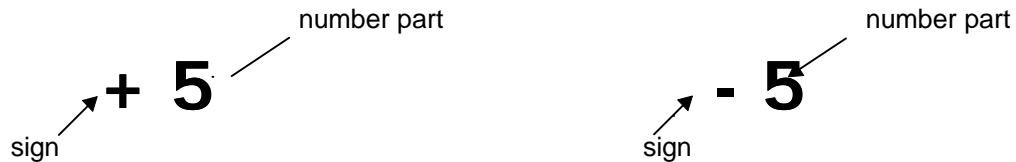


# Combining Signed Numbers

To combine two numbers with the same signs:



## First Step:

Add the number parts to get the number part of your answer.

## Second Step:

Your answer will have the same sign as the signs on the two number parts.

## **Examples:**

Simplify:

$$- 2 - 4 =$$

Answer: -6

$$- 3 - 4 - 5 =$$

Answer: -12

$$+ 5 + 4 =$$

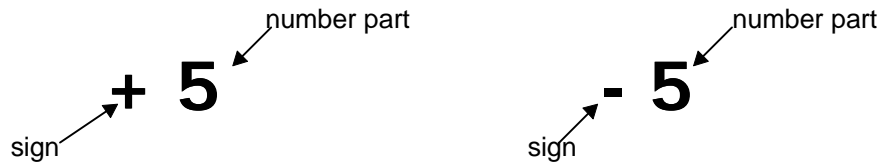
Answer: +9 or 9

(If no sign is shown on a number, the sign is understood to be a + sign.)

$$7 + 6 =$$

Answer: +13 or 13

To combine two numbers with different signs:



Step One:

Subtract the smaller number part from the larger number part to get the number part of your answer.

Step Two:

Your answer will have the same sign as the sign on the larger number part.

**Examples:**

Simplify:

$$-5 + 9 = \quad \text{Answer: } +4 \quad \text{or} \quad 4$$

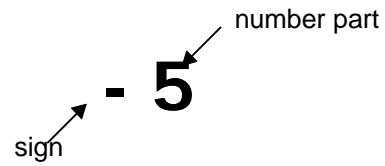
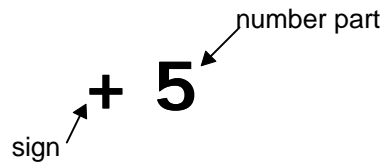
$$-3 + 5 - 6 = 2 - 6 = \quad \text{Answer: } -4$$

$$6 - 8 = \quad \text{Answer: } -2$$

$$47 - 55 = \quad \text{Answer: } -8$$

$$-18 + 24 = \quad \text{Answer: } +6 \quad \text{or} \quad 6$$

To multiply signed numbers:



Step One:

Multiply the number parts to get the number part of your answer.

**Step Two:**

If the numbers you are multiplying have the same signs then your result is positive.

If the numbers you are multiplying have different signs then your result is negative.

Examples:

$$(-7)(5) = \text{Answer: } -35$$

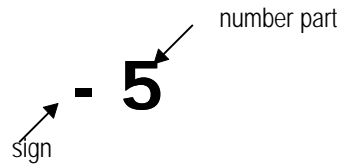
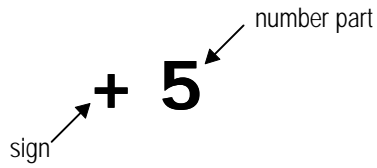
$$3(-8) = \text{Answer: } -24$$

$$(-3)(-2) = \text{Answer: } +6 \text{ or } 6$$

$$4(-5)(6) = -20(6) = \text{Answer: } -120$$

$$(-2)(-3)(-4)(-5) = 6(-4)(-5) = -24(-5) = \text{Answer: } +120 \text{ or } 120$$

To divide signed numbers:



**First Step:**

Divide the number parts to get the number part of your answer.

**Second Step:**

If the numbers being divided have the same signs then the result will be positive.

If the numbers being divided have different signs then the result will be negative.

**Examples:**

$$\frac{-100}{2} =$$

Answer: - 50

$$\frac{18}{-3} =$$

Answer: -6

$$\frac{-9}{-3} =$$

Answer: + 3 or 3

## Resolving signs against signs:

**Like sign against like sign resolves into a positive sign.**

Examples:

Simplify.

$$+ (+ 6) = \text{Answer: } + 6 \text{ or } 6$$

$$- (- 8) = \text{Answer: } + 8 \text{ or } 8$$

$$4 - (- 5) - (- 7) = 4 + 5 + 7 = 9 + 7 = \text{Answer: } 16$$

**Unlike sign against unlike sign resolves into a negative sign.**

Examples:

Simplify.

$$- (+ 7) = \text{Answer: } - 7$$

$$- ( 5) = \text{Answer: } - 5$$

$$- 7 - (+ 4) + (- 9) = - 7 - 4 - 9 = - 11 - 9 = \text{Answer: } -20$$

Below is an example using both of the above rules.

$$-(-6) + (-2) - (+4) + (1) = 6 - 2 - 4 + 1 = 4 - 4 + 1 = 0 + 1 = 1$$