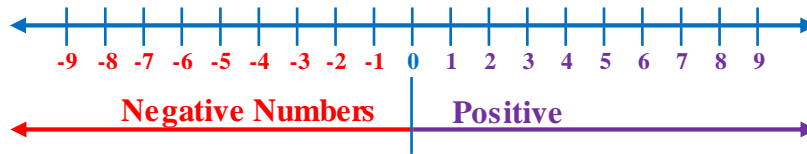


Adding and Subtracting Real Numbers Guide Notes

We can use a number line to add any real numbers.

- Adding a positive number by moving to the right.
- Adding a negative number by moving to the left.

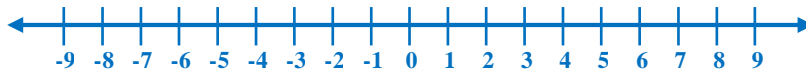


Sample Problem 1: Use a number line to find the sum.

a. $-6 + 9$



b. $4 + (-7)$



c. $-3 + 8$



RULES OF ADDITION: without a number line

To add two numbers with the same sign:

1. Add their absolute values.
2. Attach the common sign.

To add two numbers with opposite signs:

1. Subtract the smaller absolute value from the larger absolute value.
2. Attach the sign of the number with the larger absolute value.

Sample Problem 2: Find the sum.

a. $1.4 + (-2.6) + 3.1$

b. $-\frac{1}{2} + 3 + \frac{1}{2}$

c. $-11 + (-7)$

Adding and Subtracting Real Numbers Guide Notes

RULE OF SUBTRACTION: without a number line

To subtract b from a , add the opposite of b to a :

$$a - b = a + (-b)$$

The result is the difference of a and b .

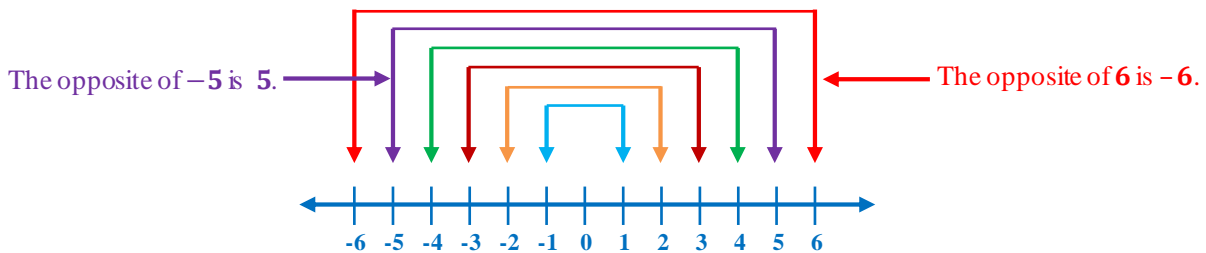
Sample Problem 3: Find the difference.

- $-7 - 6$
- $-\frac{5}{4} - \left(-\frac{1}{4}\right)$
- $20 - 21$

OPPOSITES are pair of positive real numbers with its negative. Opposites are additive inverse of each other.

ADDITIVE INVERSE of a number a is the number that when add to a will yield zero.

$$a + (-a) = 0$$



Sample Problem 4: Evaluate each expression.

- $3 - (-4) - 2 + 8$
- $-9 - 2 + (-6)$
- $-12 + (-11) + 17$

Sample Problem 5: The average height of a NBA player is 79 inches while the height of an average man is 69 inches. What is the difference between their heights?