

Section 1 - 5

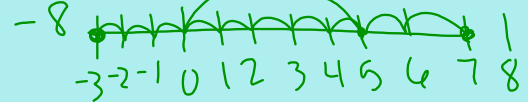
Adding and Subtracting Real Numbers

Students will be able to find the sum and difference of real numbers.

No Calculators Allowed!!!!

How could we model the following on a number line?

$$5 + 2 = 7$$



$$-6 + (-4) = -10$$

What is the general rule for:

adding numbers with the same sign

Add #'s + keep sign

adding numbers with different signs

Sub #'s, Keep sign of larger

What is each sum?

$$-5.2 + 7.6$$

$$\begin{array}{r} 7.6 \\ -5.2 \\ \hline 2.4 \end{array}$$

$$-1/4 + -2/3$$

$$\frac{3 \cdot 1}{12 \cdot 4} + \frac{2 \cdot 8}{3 \cdot 12} - \frac{1}{4} + -\frac{2}{3} = \left(-\frac{11}{12} \right)$$

Define

opposites \rightarrow change
Sign

additive inverses

$$-7 + 7 = 0$$

Inverse Property for Addition

$$a + -a = 0$$

Use opposites to subtract:

$$4 - 9 = 4 + -9 = -5$$

Subtracting real numbers:

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

$$5 - 7 = 5 + (-7) = -2$$

What is $4.8 + (+8.7)$?

$$\begin{array}{r} 4.8 + 8.7 \\ 8.7 \\ \hline 13.5 \end{array}$$

For what values does $a - b = b - a$?

$$if a = b$$

Section 1-6 Multiplying and Dividing Real Numbers

No Calculators!!!

Students will be able to:
-find products and quotients of real numbers.

Find the product:

$$6(-15) = -90$$

$$\begin{array}{r} 15 \\ 6 \\ \hline 90 \end{array}$$

$$10(24) = 240$$

$$100(3.026) = 302.6$$

$$-\frac{7}{10} \left(\frac{3}{5} \right) = -\frac{21}{50}$$

$$\uparrow -\sqrt{100} = -10$$

$$\pm\sqrt{1} = \pm 1$$

$$\sqrt{\frac{4}{25}} = \frac{2}{5}$$

Simplify:

$$12/-4 = -3$$

$$-100/-5 = 20$$

$$9/0 \neq$$

$$0/-4 = 0$$

The elevation of a hot air balloon changes by -3750 ft in 5 min after opening the parachute. What is the change in the hot air balloon's elevation in 7 minutes?

The Inverse Property for Multiplication:

Words: for every nonzero real number a , there is a multiplicative inverse $1/a$ such that $\underline{a(1/a)} = 1$

Example: $2\left(\frac{1}{2}\right) = 1$

Define:

Reciprocal $\frac{2}{1} \Rightarrow \frac{1}{2}$

$\frac{1}{2} \cdot \frac{3}{4} \Rightarrow \frac{1}{2} \cdot \frac{4}{3} = \frac{4}{6} = \frac{2}{3}$

Section 1-7 The Distributive Property

Students will be able to use the Distributive Property to simplify expressions.

The Distributive Property is used to simplify the product of a number and a sum or difference.

$$a(b + c)$$

$$2(\overbrace{x+4})$$

$$2x + 8$$

$$(a - c)b$$

$$(\overbrace{y-4})3 = 3y - 12$$

Simplify the expression

$$12\left(3 - \frac{1}{6}t\right) =$$

$$\cancel{36} - \cancel{72t}$$

$$36 - 2t$$

$$(2y - 1)(-y) =$$

$$-2y^2 + y$$

What sum or difference is equal to the following?

$$\frac{15 + 6x}{12} = \frac{1}{12}(15 + 6x)$$

$$\frac{15 + 6x}{12} = \frac{15}{12} + \frac{6x}{12}$$

A negative symbol in front of a parentheses can be replaced with a negative 1 and then multiplied through the expression.

$$-(2x - 5) + 3(-x + 1)$$

$$-2x + 5 - 3x + 3$$

$$= (-5x + 8)$$

Define:

Like Terms Same variables

Examples: $3xy$ & $-7xy$
 $2x$ and $-x$

An algebraic expression in simplest form has no like terms or parentheses.

Which of the following are simplified?

$$2(x + 7) - y$$

$$4a - 7ab + 8b^2$$

$$x^2y - 3y^2x$$

$$14 - (8 + 2)$$

Simplify:

$$4x - 2x + 3x$$

$$5x$$

$$\underline{-ab} + \underline{17a} - \underline{5ab} - \underline{7a} + 2$$

$$10a - 6ab + 2$$

Hwk:

pg.34-35 #22, 25, 28, 38-46

evens, 50, 51, 58-60

pg.42-43 #14-26(every 4th), 40, 42, 44, 48, 54, 57

pg. 50 - 53 #16, 24, 32, 34, 40, 50, 64, 68, 70, 72, 74, 77, 80, 86, 90

Attachments

Sec1.5.notebook

Sec1.6.notebook

Sec1.7.notebook