

M-A1 Algebra 1 10/3 Week 4

Rational/Irrational

Rational → Type

1.) $0.789789789\dots$

Rational, repeating decimal $\frac{789}{999}$

5.) $0.313131\boxed{}$
rational, terminal

9.) $\sqrt{36}$
rational, perfect square

2.) 5
rational, counting, whole, integer

6.) $0.98765\dots$
irrational

10.) $0.222\dots$
rational, repeating

3.) $\frac{3}{4}$
rational

7.) -9
rational, integer

11.) $0.10102\dots$
irrational

4.) $\sqrt{80}$
irrational

8.) 0
rational, integer, whole

12.) $\sqrt{100}$
rational, perfect square

Perfect Squares: 1, 4, 9, 16, 25, 36, 49, 64, 81, 100

$8(4s - t)$

$s = 3 \quad t = 9$

$8(4(3) - 9)$

$8(12 - 9)$

$8(3) = \boxed{24}$

1.) $\frac{5s^2}{t} \quad s = 2 \quad t = 8$

$\frac{5(2)^2}{8} = \frac{5(4)}{8} = \frac{20 \div 4}{8 \div 4} = \boxed{\frac{5}{2}}$

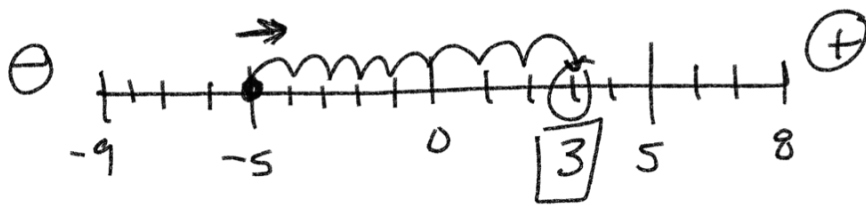
2.) $\frac{2t^2}{s^3} \quad s = 4 \quad t = 6$

$\frac{2(6)^2}{(4)^3} = \frac{2(36)}{64} = \frac{72 \div 8}{64 \div 8} = \boxed{\frac{9}{8}}$

1-4 Adding Real Numbers

$$-5 + 8 = \boxed{3}$$

(Visual representation: 5 red minus signs and 8 blue plus signs. The 5 red signs are crossed out, and 3 blue signs remain.)



{ Adding with different signs,
take their difference

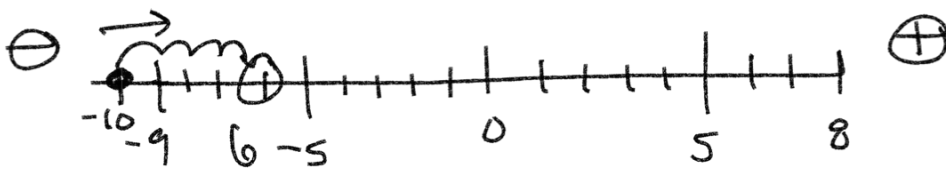
$$8 - 5 = 3$$

$$\begin{array}{ccc} -5 & + & 8 \\ \uparrow & & \swarrow \\ \text{start} & & \text{direction} \end{array}$$

forward 8

$$\begin{array}{ccc} -10 & + & 4 \\ \uparrow & \uparrow & \swarrow \\ \text{start} & & \text{direction} \end{array}$$

forward 4



$$-10 + 4 = \boxed{-6}$$

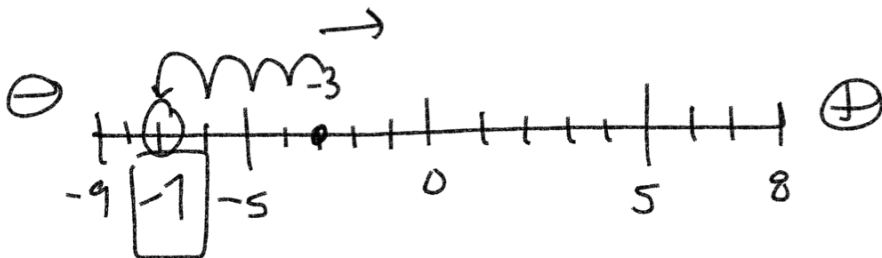
Different signs,
take difference

$$10 - 4 = 6$$

$$\downarrow -3 + (-4) = \boxed{-7}$$

same sign, take
their sum (add)

$$3 + 4 = 7$$



$$\begin{array}{ccc} -3 & + & (-4) \\ \uparrow & \uparrow & \swarrow \\ \text{start} & & \text{backward 4} \end{array}$$

$$1.) 4 + (-8) = \boxed{-4} \quad 5.) 12 + (-7) = \boxed{5}$$

$$8 - 4 = 4 \quad 12 - 7 = 5$$

$$2.) -9 + 3 = \boxed{-6} \quad 6.) -1 + 8 = \boxed{7}$$

$$9 - 3 = 6 \quad 8 - 1 = 7$$

$$3.) 2 + 7 = \boxed{9} \quad 7.) -3 + (-15) = \boxed{-18}$$

$$3 + 15 = 18$$

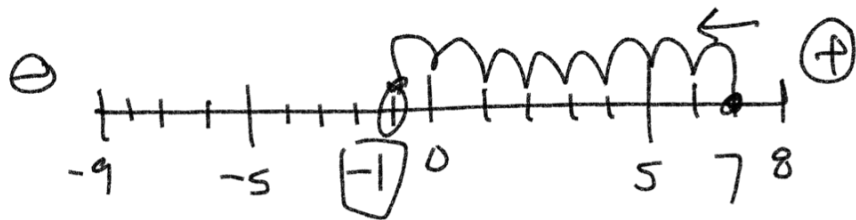
$$4.) -5 + (-8) = \boxed{-13} \quad 8.) 6 + 9 = \boxed{15}$$

$$5 + 8 = 13$$

1-5 Subtracting Real Numbers

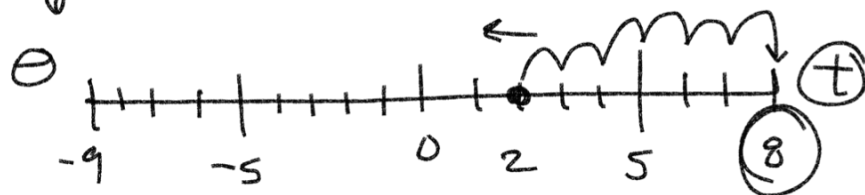
$$7 - 8 \quad 7 + (-8) = \boxed{-1}$$

$7 - 8$
 ↑ ↑
 start direction
 forward 8



$$-3 - 11 \quad -3 + (-11) = \boxed{-14}$$

$2 - (-6)$
 ↑ ↑
 start direction
 backwards 6



$$2 - (-6)$$

$$2 + (+6) = \boxed{8}$$

$$1.) -8 - 4 = \boxed{-12} \quad -8 \overset{-4}{\curvearrowright} -8 + (-4)$$

$$2.) 8 - 4 = \boxed{4}$$

$$3.) 8 - (-4) = 8 + (+4) = \boxed{12}$$

$$4.) -8 - (-4) = \boxed{-4}$$

\downarrow
 $-8 + 4 = -4$
 $8 - 4 = 4$

$$5.) 6 - 9 = \boxed{-3} \quad 6 + (-9)$$

$$6.) -6 - 9 = -6 + (-9) = \boxed{-15}$$

$$7.) 6 - (-9) = 6 + (+9) = \boxed{15}$$

$$8.) -6 - (-9) = -6 + (+9) = -6 + \overset{\downarrow}{9} = \boxed{3}$$

1-6 Mult/Div Real Numbers

Public School

<u>You</u>	<u>Everyone Else</u>	<u>Situation</u>
Happy	Happy	Good
Sad	Happy	Bad
Happy	Sad	Bad
Sad	Sad	Good!!

CONFORMITY !!

$$8 * 4 = 32$$
$$-8 * 4 = -32$$

$$8 * (-4) = -32$$
$$(-8) * (-4) = 32$$

$$\frac{54}{9} = 6$$

$$\frac{54}{-9} = -6$$

$$\frac{-54}{9} = -6$$

$$\frac{-54}{-9} = 6$$