

SUBTRACTING INTEGERS

two negative directly beside each other becomes a positive
(think temperature....taking away cold means its warmer)

$$7 - (-4)$$
$$7 + 4$$
$$11$$

$$-4 - (-2) - (+3)$$
$$-4 + 2 - 3$$

A number line starting at 0 and extending to the left. Tick marks are present at -1, -2, -3, and -4. A blue dot is placed at -5 and circled in blue. A blue bracket above the line spans from -4 to -5. A red bracket above the line spans from -2 to -4. A red arrow points from -2 to -4. A blue arrow points from -4 to -5. The number -5 is written in blue below the tick mark, and -4 is written in red below the tick mark. The result = -5 is written in blue below the number line.

$$= -5$$

$$-4 - 5$$

A number line starting at 0 and extending to the left. Tick marks are present at -1, -2, -3, and -4. A blue dot is placed at -9 and circled in blue. A blue bracket above the line spans from -4 to -9. A blue arrow points from -4 to -9. The number -9 is written in blue below the tick mark, and -4 is written in black below the tick mark.

SUBTRACTING FRACTIONS

$$\frac{5}{7} - \frac{-3}{7} = \frac{8}{7}$$

$$\begin{array}{r} 5 - 3 \\ 5 + 3 \\ \hline 8 \end{array}$$

$$-1\frac{1}{4} - (-2\frac{2}{3})$$

$$= \left(\frac{4}{4} \text{ and } \frac{1}{4}\right) - \left(\frac{6}{3} \text{ and } \frac{2}{3}\right)$$

$$= \frac{5}{4} \times 3 + \frac{3}{3} \times 4$$

$$= \frac{15}{12} + \frac{32}{12} \\ = \frac{17}{12}$$

$$(-8.93) - (+1.25)$$

$$\frac{-893}{100} - \frac{125}{100} = \frac{-1018}{100} = -10.18$$

$$-893 - 125$$

800 and 100 and 90 and 20 and 3 and 5

all negative

900 and 110 and 8

1010 and 8

-1018

1. The temperature in St. John's is 6.5°C . In Corner Brook it is 8°C colder. What is the temperature in Corner Brook?

$$\text{Answer: } 6.5 - 8 = \frac{65}{10} - \frac{8}{1 \times 10} = \frac{65}{10} - \frac{80}{10} = \frac{-15}{10} = -1.5^{\circ}\text{C}$$

2. A piece of pipe is 146.3 cm long. A piece 13.7 cm is cut off. How long is the remaining piece?

$$\text{Answer: } 146.3 - 13.7 = \frac{1463}{10} - \frac{137}{10} = \frac{1326}{10} = 132.6 \text{ cm}$$

3. A person climbs $12\frac{2}{3}$ meters above the water to the top of a cliff. He dives into the water and reaches $-3\frac{1}{6}$ meters below the surface. What is the difference in these heights?

$$\begin{aligned} \text{Answer: } 12\frac{2}{3} - \left(-3\frac{1}{6}\right) &= \frac{38}{3} + \left(+\frac{19}{6}\right) \\ &= \frac{38 \times 2}{3 \times 2} + \frac{19}{6} = \frac{76}{6} + \frac{19}{6} = \frac{95}{6} = 15\frac{5}{6} \text{ meters} \end{aligned}$$

Practice: 3, 5, 7-11, 13-15

do 2 or 3 from each