

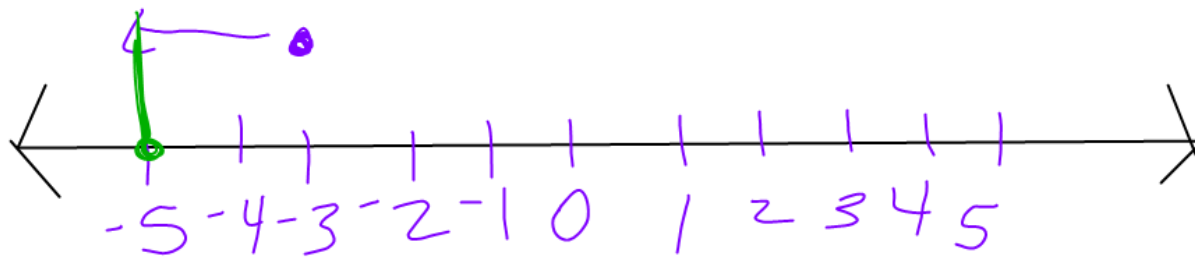
2.2 - Subtracting Rational Numbers

Vocabulary:

none

1

EXAMPLE

Find $-3 - 2$ using a number line.

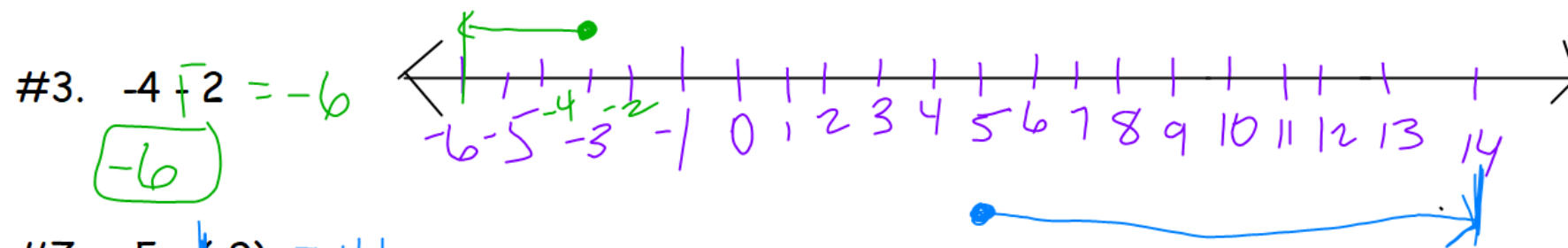
$$\boxed{-5}$$

$$-3 - 2$$

$$\boxed{-5}$$

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Draw a number line to model each difference. Then find each difference.



#7. $5 - 9 = -4$

-6

3 EXAMPLE Simplify.

$$\text{a. } -11.6 - 14 = \boxed{24}$$

$$\begin{array}{r} 14.0 \\ -11.6 \\ \hline 2.4 \end{array}$$

$$\begin{aligned} \text{b. } \frac{2}{3} - \frac{4}{9} &= \frac{6}{9} - \frac{4}{9} \\ &= \frac{10}{9} \\ &= \boxed{1\frac{1}{9}} \end{aligned}$$

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Simplify each expression.

$$\# 16. \quad -3.6 - (-7.1) = \boxed{3.5}$$

$$\begin{array}{r} 67.11 \\ -3.6 \\ \hline 3.5 \end{array}$$

$$\# 17. \quad \frac{1}{3} \cdot 2 - \frac{1}{2} \cdot 3$$

$$\frac{2}{6} - \frac{3}{6} = \boxed{\frac{-1}{6}}$$

4 **EXAMPLE** Simplify $|-13 - (-21)|$.

$$|-13 - \cancel{(-21)}|$$

$$|8|$$

$$\boxed{8}$$

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Simplify

$$\# 23. \quad |4 - 10| = |-6| = \boxed{6}$$

$$\# 25. \quad |-6 + 7|$$

$$|-13|$$

$$\boxed{13}$$

5 EXAMPLE Evaluate $x - (-y)$ for $x = -3$ and $y = -6$.

$$x = -3 \quad y = -6$$

$$x - (-y)$$

$$-3 - (-6)$$

$$-3 + 6$$

$$\boxed{-9}$$

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Evaluate each expression for $x = 3$, $y = -4$, $z = 6$.

#31. $-y - x$

$$-y - x$$

$$-(-4) - 3 = \boxed{1}$$

#35. $x + y - z$

$$x + y - z$$

$$3 + (-4) - 6$$

$$\downarrow$$

$$-1 - 6 = \boxed{-7}$$

6 EXAMPLE The temperature in Montreal, Canada, at 6:00 P.M. was -8°F .
Find the temperature at 10:00 P.M. if it fell 7°F .

Find the temperature at 10:00 P.M. by subtracting 7°F from the temperature at 6:00 P.M.

$$-8^{\circ}\text{f} + 7^{\circ}\text{f} = \boxed{-15^{\circ}\text{f}}$$

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#37. On Friday, the closing price of a KJL company share was \$51.72. It had risen \$1.08 from the previous day. Find the closing price of KJL on Thursday.

Thurs. Friday $51.\overset{6}{7}2$

\textcircled{X} +1.08 \$51.72 $\begin{array}{r} -1.08 \\ \hline \$50.64 \end{array}$

Homework Problems

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