

Review Exercise Set 2

Exercise 1: Simplify.

$$-45 + (-20) = ?$$

Exercise 2: Simplify.

$$2 * (-3) * 6 = ?$$

Exercise 3: Simplify.

$$\frac{3}{8} + \frac{5}{4} - \frac{15}{16} = ?$$

Exercise 4: Simplify.

$$3^2 - (9 - 5)^2 * 2 = ?$$

Exercise 5: Simplify.

$$\frac{2}{3} + \left[\left(3 - \frac{5}{8} \right) \right] * \frac{1}{18} = ?$$

Review Exercise Set 2 Answer Key

Exercise 1: Simplify.

$$\begin{aligned} & -45 + (-20) \\ & = -(|-45| + |-20|) \\ & = -(45 + 20) \\ & = -\mathbf{65} \end{aligned}$$

Since both numbers are negative, we would add the absolute value of both numbers together and keep the negative sign.

Exercise 2: Simplify.

$$\begin{aligned} & 2 * (-3) * 6 \\ & = 2 * (-18) \\ & = -\mathbf{36} \end{aligned}$$

The order in which you multiply the numbers does not matter since multiplication is commutative. However, you must be careful with the signs of the numbers. The product of a negative number and a positive number will be negative.

Exercise 3: Simplify.

$$\begin{aligned} & \frac{3}{8} + \frac{5}{4} - \frac{15}{16} \\ & = \frac{6}{16} + \frac{20}{16} - \frac{15}{16} \\ & = \frac{26}{16} - \frac{15}{16} \\ & = \frac{11}{16} \end{aligned}$$

Exercise 4: Simplify.

$$\begin{aligned} & 3^2 - (9-5)^2 * 2 \\ & = 3^2 - (4)^2 * 2 \\ & = 9 - 16 * 2 \\ & = 9 - 32 \\ & = -\mathbf{23} \end{aligned}$$

Exercise 5: Simplify.

$$\frac{2}{3} + \left[\left(3 - \frac{5}{8} \right) \times \frac{1}{\frac{3}{15}} \right] = ?$$

Invert 3/15 and multiply it with the numerator 3/5

$$= \frac{2}{3} + \left[\left(3 - \frac{3}{5} \times \frac{15}{8} \right) \right] \times \frac{1}{18}$$

Reduce the fractions before multiplying by dividing 5 into 5 and 15

$$\begin{aligned} &= \frac{2}{3} + \left[\left(3 - \frac{3}{\cancel{5}1} \times \frac{\cancel{15}3}{8} \right) \right] \times \frac{1}{18} \\ &= \frac{2}{3} + \left[3 - \frac{9}{8} \right] \times \frac{1}{18} \end{aligned}$$

Rewrite 3 as a fraction with the common denominator of 8

$$\begin{aligned} &= \frac{2}{3} + \left[\frac{24}{8} - \frac{9}{8} \right] \times \frac{1}{18} \\ &= \frac{2}{3} + \frac{15}{8} \times \frac{1}{18} \end{aligned}$$

Reduce the fractions before multiplying by dividing 3 into 15 and 18

$$\begin{aligned} &= \frac{2}{3} + \frac{\cancel{15}5}{8} \times \frac{1}{\cancel{18}6} \\ &= \frac{2}{3} + \frac{5}{48} \end{aligned}$$

Rewrite 2/3 with a common denominator of 48 by multiplying the numerator and denominator by 16

$$\begin{aligned} &= \frac{32}{48} + \frac{5}{48} \\ &= \frac{37}{48} \end{aligned}$$