

Review Exercise Set 3

Exercise 1: What are the variable terms in the expression below?

$$5x + \sqrt{3} - 4a - 6$$

Exercise 2: Evaluate the variable expression when $a = 4$, $b = -1$, and $c = 0$.

$$5b + \frac{\sqrt{3ac}}{6} + 2a = ?$$

Exercise 3: Evaluate the variable expression when $a = 4$, $b = -1$, and $c = -3$.

$$(c + b)^2 - (a - b)^2 = ?$$

Exercise 4: Evaluate the variable expression when $x = 3$, $y = -4$, and $z = 2$.

$$x^3 - 2(x + y) + z^2 = ?$$

Exercise 5: Evaluate the variable expression when $x = 3$, $y = -4$, and $z = 2$.

$$4xz + (2y)^2 = ?$$

Review Exercise Set 3 Answer Key

Exercise 1: What are the variable terms in the expression below?

$$5x + \sqrt{3} - 4a - 6$$

The variable terms are $5x$ and $-4a$

Exercise 2: Evaluate the variable expression when $a = 4$, $b = -1$, and $c = 0$.

$$\begin{aligned} & 5b + \frac{\sqrt{3ac}}{6} + 2a \\ &= 5(-1) + \frac{\sqrt{3(4)(0)}}{6} + 2(4) \\ &= -5 + \frac{\sqrt{0}}{6} + 8 \\ &= 3 + \frac{0}{6} \\ &= 3 + 0 \\ &= 3 \end{aligned}$$

Exercise 3: Evaluate the variable expression when $a = 4$, $b = -1$, and $c = -3$.

$$\begin{aligned} & (c + b)^2 - (a - b)^2 \\ &= [(-3) + (-1)]^2 - [(4) - (-1)]^2 \\ &= (-3 - 1)^2 - (4 + 1)^2 \\ &= (-4)^2 - (5)^2 \\ &= 16 - 25 \\ &= \mathbf{-9} \end{aligned}$$

Exercise 4: Evaluate the variable expression when $x = 3$, $y = -4$, and $z = 2$.

$$\begin{aligned} & x^3 - 2(x + y) + z^2 \\ &= (3)^3 - 2[(3) + (-4)] + (2)^2 \\ &= (3)^3 - 2(3 - 4) + (2)^2 \\ &= (3)^3 - 2(-1) + (2)^2 \\ &= (3)^3 + 2 + (2)^2 \\ &= 27 + 2 + 4 \\ &= \mathbf{33} \end{aligned}$$

Exercise 5: Evaluate the variable expression when $x = 3$, $y = -4$, and $z = 2$.

$$\begin{aligned} &4xz + (2y)^2 \\ &= 4(3)(2) + [2(-4)]^2 \\ &= 24 + (-8)^2 \\ &= 24 + 64 \\ &= \mathbf{88} \end{aligned}$$