

1. Perform the following operations. Show all steps.

$$(a) \frac{-4 + (-2)^3 + (-12) + (-2)(-3)}{(-3) + (-3)^2} =$$

$$(b) \frac{12 - |6 + (-11)| + |11 + (-6)| - |2^3 + (-11)|}{-2^2 + 1} =$$

$$(c) \frac{|4 - 2| + |2 + (-4)| - |(-5) + 3| + |2| + |-2|}{-2^2 + (-2)^2 + 10 - 6 - (-2) \div (-2)} =$$

2. Evaluate the expression  $\frac{17x - 2x^2 - 21}{2x - 3}$  if

(a)  $x = 0$

(b)  $x = -2$

3. Let  $x = -3$ ,  $y = 4$ , and  $z = -1$ . Evaluate each of the following expressions.

(a)  $y^2 + x + z - 2(x + y)^2 + (x + z) =$

(b)  $2y + 3(x + y) + z + y + 1 =$

4. Consider the equation  $x^2 + 1 = 3(x + 4) - 1$ .

(a) Is  $-2$  a solution of the equation?

(b) Is  $-3$  a solution of the equation?

(c) Is  $5$  a solution of the equation?

5. Graph each of the points given in the same coordinate system. What shape do these points determine?

$A(-2, -7)$ ,  $B(0, -1)$ ,  $C(2, 5)$ ,  $D(3, 8)$