

1. Perform the following operations. Show all steps.

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

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

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

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

$$(a) x = 0 \quad 7$$

$$(b) x = -2 \quad 9$$

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

$$(a) y^2 + x + z - 2(x + y)^2 + (x + z) = 6$$

$$(b) 2y + 3(x + y) + z + y + 1 = 15$$

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

$$(a) \text{ Is } -2 \text{ a solution of the equation? } 5 = 5 \implies \text{yes}$$

$$(b) \text{ Is } -3 \text{ a solution of the equation? } 10 \neq 2 \implies \text{no}$$

$$(c) \text{ Is } 5 \text{ a solution of the equation? } 26 = 26 \implies \text{yes}$$

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

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

