

Name: _____ Period: _____

Math 9: Polynomials Quiz #1

Full credit will only be awarded for all work shown in a neat and organized manner.

1. For the polynomial $z - 3z^2 + 4xy + 7$

- How many terms are in the polynomial?
- What are the variables in the polynomial?
- What are the constants in the polynomial?
- What are the coefficients in the polynomial?

4

x, y, z
7

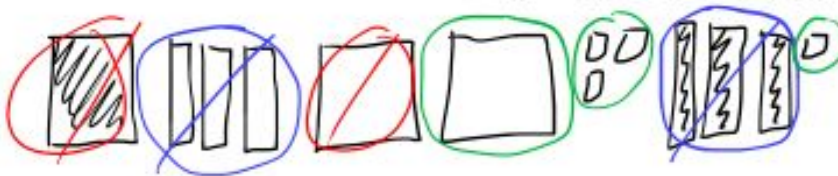
1, -3, 4

2. Write a polynomial that has 4 terms when simplified with a constant of -5 and a coefficient of 2

$$2x^2 + 5x + 8y - 5$$

3. **Draw** the polynomial below using algebra tiles. **Simplify** the polynomial **using your drawing**. Write the simplified polynomial **using variables**.

$$x^2 - 3x - 2x^2 - 3 + 3x - 1$$



$$= -x^2 - 4$$

4. By drawing algebra tiles, explain why $3x^2 - x$ does not simplify to $2x^2$



Different shapes \Rightarrow NOT like terms
 Can't combine/simplify

5. Add and subtract the following polynomials and simplify. (Show your work!)

a) $(5x - 5) + (3x + 7)$

$$8x + 2$$

b) $(2y^2 - 8y + 4) + (-6y^2 + 2)$

$$-4y^2 - 8y + 6$$

c) $(2x + 8) - (4x - 2)$

$$= 2x + 8 - 4x + 2$$

$$-2x + 10$$

d) $(-3t^3 - 4t + 1) - (-6t^2 - 5t + 2)$

$$= -3t^3 - 4t + 1 + 6t^2 + 5t - 2$$

$$-3t^3 + 6t^2 + t - 1$$

e) $(3a + 1) + (4b - 3) - (2a - 5)$

$$= 3a + 1 + 4b - 3 - 2a + 5$$

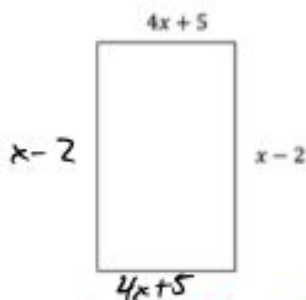
$$a + 4b + 3$$

f) $(-5x^2 + 4xy) - (y - 3x^2 - 2xy) - (6x + 7y)$

$$= -5x^2 + 4xy - y + 3x^2 + 2xy - 6x - 7y$$

$$-2x^2 + 6xy - 8y - 6x$$

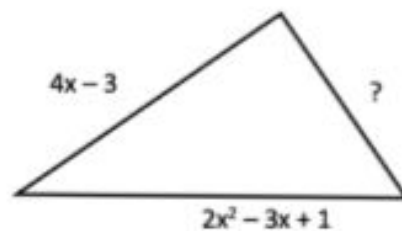
6. Find the perimeter of the rectangle.



$$= (4x + 5) + (4x + 5) + (x - 2) + (x - 2)$$

$$10x + 6$$

7. The perimeter of the triangle is $7x + 1$. Find the missing side length.



$$? = 7x + 1 - (4x - 3) - (2x^2 - 3x + 1)$$

$$? = 7x + 1 - 4x + 3 - 2x^2 + 3x - 1$$

$$6x + 3 - 2x^2$$