Unit 5: Polynomials Mid-Unit Review

A. Identify the polynomials in the following expressions. Write Yes if it is a polynomial and No if it is not.

2.
$$\sqrt{4x^2 + 7x - 5}$$

$$4. \quad \frac{1}{x^2 + x}$$

B. Name the coefficients, variable, degree, number of terms and the constant term of each polynomial. If there is no answer, put a line through the answer location.

Polynomial	Coefficient	Variables	Degree	# of Terms	Constants
-8 <i>y</i>					
-4 - b					
$-2b^2 - b + 10$					
$4x^2y^3 - 4xy + 4$					

C. Identify each polynomial as a monomial, binomial, or trinomial.

3.
$$-1 + xy + y^2$$

D. Match the equivalent polynomials in the chart below. (Hint: Some need to be simplified)

$$1. -h^2 - 3 + 4h$$

5.
$$-3 + 4h - h^2$$

9.
$$-5y^2 - 3y - 4$$

6.
$$-2 + y^2 + 5xy$$

$$|0.| + x - x^2$$

3.
$$y^2 + 5xy - 2$$

$$7. -3 + 5m$$

11.
$$-7 + 5x - 7x - 8 + 14 + 12x$$

7.
$$-3 + 5m$$
 | 11. $-7 + 5x - 7x - 8 + 14 + 12x$
8. $2y^2 - 4 - 16 - 7y^2 - 3y + 16$ | 12. $5x^2 + 7 + 4x - 6x^2 - 6 - x - 2x$

2.
$$5x^2 + 7 + 4x - 6x^2 - 6 - x - 2x$$

matches with #

E. Use algebra tiles to model each polynomial. If you can, combine like terms. Sketch the tiles for the simplified polynomial.

$$1. -5 + y^2$$

2.
$$2x - 1$$

3.
$$-3a^2 - 2a + 1$$

$$4. -2y^2 + 3y - 2$$

5.
$$-2x^2 + 4 + x + 1 + 5x + 1 + 3x^2$$
 6. $3y + 7y^2 + 1 - y - 2y - 3y^2$

6.
$$3y + 7y^2 + 1 - y - 2y - 3y^2$$

F. Circle the terms below that are like: $2w^2$.

$$\frac{1}{8}_{w^2}$$
 $_{-6w^2}$ $_{-2}$ $_{+w}$ $_{3w^2}$ $_{-w^2}$ $_{|w}$ 2

G. Simplify each polynomial.

$$1. -4 + 2a + 7 - 4a$$

2.
$$3p - 6 - 4p + 6$$

3.
$$3a^2 - 2a - 4 + 2a - 3a^2 + 5$$

4.
$$7z - 2 + 3 + 2 - 7$$

5.
$$a^2 + 3a + 1 + 4a^2 + 2$$

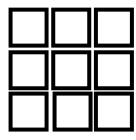
6.
$$-6x^2 + 10x - 4 + 4 - 12x - 7x^2$$











I. Add these polynomials.

1.
$$(y^2 + 6y) + (-7y^2 + 2y)$$

2.
$$(5n^2 + 5) - (-1 - 3n^2)$$

3.
$$(y^2 + 6y - 5) + (-7y^2 + 2y - 2)$$

$$4. (-2n + 2n^2 + 2) - (-1 - 7n^2 + n)$$

5.
$$(3m^2 + m) + (-10m^2 - m - 2)$$

6.
$$(-d^2+2)-(-2-7d^2+d)$$

K. Add these polynomials.

1.
$$(-7a+5)$$

+ $(2a-8)$

2.
$$(4m^2 - 3)$$

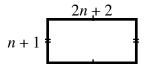
- $(-8m^2 - 1)$

3.
$$(r^2 - 4r + 3) + (-r^2 - 2r - 3)$$

4.
$$(3c^2 - 4c + 1)$$

- $(-2c^2 + 4c + 1)$

L. For each shape below, write the perimeter as a sum of polynomials in simplest form.





M. Divide

1.
$$(24r^3s^2t - 15rs^4t) \div 3rs$$

2.
$$|4y^3 - |2y^2 + |6y \div (-2y)|$$

3.
$$2 \ln^6 n^4 + 14 \ln^3 n^3 - 7 \ln^2 n^2 - 7 \ln n$$

4.
$$-18r^5t^2 + 12r^3t + 3rt$$

N. Determine the length of each rectangle.

1. Area =
$$18x^4 + 12x^3 - 24x^2$$

Width = $3x^2$

2. Area =
$$30x^3y + 40x^2y^4 - 70xy^3$$

Width = $5xy$

O. Solve the following.

1. If
$$x=2$$
 then solve $3x^2-4x+6$

2. If
$$x=(-4)$$
 then solve $-6x^2 + 8x - 6$

3. If x=3y then solve
$$\frac{5x-10y}{5y}$$
