Name_____ Date_____ Per_____

Polynomials Study Guide

Simplify the following expressions using the correct properties of exponents.

1.) $-5x^4 \cdot 3x^3$

2.) $(2x^3y^2)^4$

3.) $\left(\frac{3x^{-2}}{6x^{-3}}\right)^2$

4.) $\frac{25x^{-1}y^3}{5x^4y^{-2}}$

5.) $\frac{4x^0y^5}{2y^3}$

6.) $(-5x^2y^3z^{-5})^0$

Perform the following operations on polynomials, write the answers in standard form, and classify by degree and number of terms.

1.) $(-5x + 3x^2 - 5) + (5 + 5x - 6x^2)$

Answer:

_____

Classify:

_____ _____

2.) $(4x^3 + 7x - 3 + x^2) - (3x + 5 - x^3)$

Answer:

_____

Classify:

_____ _____

3.) $(3x - 5)^2$

Answer:

_____

Classify:

_____ _____

4.) $(2x + 3)(3x - 7)$

Answer:

_____

Classify:

_____ _____

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

6.) $-5x^2(4x^3+3x^2+5x-3)$

Answer:	Answer:
_____	_____
Classify:	Classify:
_____ _____	_____ _____

Factor the following polynomials.

7.) $x^2-7x-30$

8.) $x^2-13x+40$

9.) $2x^2-9x-35$

10.) $6x^2-x-12$

11.) $3x^5+6x^3-15x^2$

12.) x^2-144

13.) $4x^2+12x+9$

14.) $x^3+3x^2-4x-12$

15.) Isabel Martinez wants to design a rectangular poster for the fashion club at PSHS. She knows that the area of the poster is represented by $(x^3+x^2+3x+3)ft^2$. If the width of the poster is represented by (x + 1)ft, What is the length? If Isabel wants to paint the poster with a special glitter paint and the paint costs $2.50 per square foot, how much will the poster cost to paint?