Chapter 8 Review

Name the polynomial based on degree and number of terms:

$3b^3 - 9b^2 + 2$

Number of Terms	
1	Monomial
2	Binomial
3	Trinomial

Degree	
0	Constant
1	Linear
2	Quadratic
3	Cubic
4 & up	4th degree

Cubic Trinomial

Name the polynomial based on degree and number of terms:

$8t^2 - 2$

Number of Terms	
1	Monomial
2	Binomial
3	Trinomial

Degree	
0	Constant
1	Linear
2	Quadratic
3	Cubic
4 & up	4th degree

Quadratic binomial

Simplify and write in standard form. Then name based on degree and number of terms:

$(7v^3 - 3v + 8) + (-2v^3 + v - 3)$

Number of Terms	
1	Monomial
2	Binomial
3	Trinomial

Degree	
0	Constant
1	Linear
2	Quadratic
3	Cubic
4 & up	4th degree

$5v^3 - 2v + 5$

Cubic trinomial

Simplify and write in standard form. Then name based on degree and number of terms:

$(4x^3 + 3x + 1) - (-6x^3 + 3x - 2)$

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

Number of Terms	
1	Monomial
2	Binomial
3	Trinomial

Degree	
0	Constant
1	Linear
2	Quadratic
3	Cubic
4 & up	4th degree

$10x^3 + 3$

cubic binomial

Simplify and write in standard form:

$4m(2m + 9m^2 - 6)$

$8m^2 + 36m^3 - 24m$

Standard form $36m^3 + 8m^2 - 24m$

Simplify and write in standard form:

$-2n^2(5n - 9 + 4n^2)$

$-10n^3 + 18n^2 - 8n^4$

Standard form $-8n^4 - 10n^3 + 18n^2$

Find the GCF of the terms. Then factor:

$12p^4 + 16p^3 + 8p$

GCF: $4p$

$4p(3p^3 + 4p^2 + 2)$

Find the GCF of the terms. Then factor:

$30h^5 - 6h^4 - 15h^3$

GCF

$3h^3$

$3h^3(10h^2 - 2h - 5)$

Simplify and write in standard form:

$(7q + 2)(3q + 8)$

FOIL

$21q^2 + 56q + 6q + 16$

$21q^2 + 62q + 16$

Simplify and write in standard form:

FOIL

$(w + 2)(w + 12)$

$w^2 + 12w + 2w + 24$

$w^2 + 14w + 24$

Simplify and write in standard form:

$(3s + 5)^2$

Square double square

$9s^2 + 30s + 25$

$(3s+5)(3s+5)$

$9s^2 + 15s + 15s + 25$

$9s^2 + 30s + 25$

Simplify the product:

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

$10x^3 - 8x^2 + 12x$

$15x^2 - 12x + 18$

$10x^3 + 7x^2 + 18$

A rectangle has dimensions 3x+5 and x+7. Write an expression for the area of the rectangle. Then write as a polynomial.

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

$3x^2 + 21x + 5x + 35$

$3x^2 + 26x + 35$

Factor:

$11h^4 - 9h^3$

$h^3(11h - 9)$

Factor:

$12h^4b^3 - 4h^2b$

$4h^2b(3h^2b^2 - 1)$

Factor:

$x^2 + 13x + 40$

multiply 40

8 × 5

13

Add

$(x+5)(x+8)$

Factor:

$x^2 - 5x - 36$

-9, 4

-4, 9

-12, 3

-3, 12

multiply to -36

-9 × 4

-5

Add to

$(x-9)(x+4)$

Factor:

$x^2 - 9x + 18$

$(x-6)(x-3)$

Factor:

$8x^2 - 16x + 6$

$2(4x^2 - 8x + 3)$

12

-6 × -2

-8

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

$2x(2x-3) - 1(2x-3)$

$2(2x-3)(2x-1)$

Factor:

$2x^2 + 13x + 15$

30
10 × 3
13

$(2x^2+10x)(+3x+15)$

$2x(x+5)+3(x+5)$

$(2x+3)(x+5)$

Factor:

$3x^2 - 11x + 6$

1,3 1,6 2,3

$(x-3)(3x-2)$

Factor:

$x^2 - 25$

Difference of Squares

$(x+5)(x-5)$

Difference of Squares

Factor:

$32x^2 - 8$

$8(4x^2-1)$

$8(2x-1)(2x+1)$

Perfect square trinomial

Factor:

$25x^2 + 80x + 64$

$5^2 \quad 8^2$

$(5x+8)^2$

Perfect square trinomial

Factor:

$36x^2 - 12x + 1$

$6^2 \quad (-1)^2$

$(6x-1)^2$

Factor:

$(2x^3 - 3x^2 + 8x - 12)$

$x^2(2x-3)+4(2x-3)$

$(x^2+4)(2x-3)$

Factor:

$(15x^3 + 25x^2 - 6x - 10)$

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

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

What is the first step when factoring a polynomial?

GCF

Which factoring method is best when there is a 4-term polynomial?

Grouping