

Factoring

Example 1: *** You always pull out a GCF first!!

A. $2x^2 + 4x + 20$

B. $3xy + 6x$

C. $20x + 10$

Example 2: *** Trinomials: $x^2 \pm bx \pm c$

A. $x^2 + 25x + 24$

B. $x^2 + 10x + 24$

C. $x^2 - 10x - 24$

D. $x^2 + 5x - 24$

E. $x^2 + 10x - 24$

F. $x^2 - 11x + 24$

Example 3: *** Trinomials: $ax^2 \pm bx \pm c$

A. $2x^2 + 7x + 3$

B. $2x^2 + x - 3$

C. $2x^2 - 7x - 15$

D. $6x^2 - x - 2$

E. $6x^2 + 17x + 10$

F. $6x^2 + 17x + 12$

Example 4: *** Difference of Perfect Squares: $a^2 - b^2$

A. $100 - 4x^2$

B. $-m^6 + 16$

C. $b^8 - 16$

Example 5: *** Sum/Difference of Perfect Cubes: $a^3 - b^3$

“SOAP”

$$a^3 - b^3 =$$

$$a^3 + b^3 =$$

A. $x^3 - 8$

B. $8x^3 + 27$

C. $1000x^6 - m^3$

Rationalize Numerator

Example 6: *** Rationalize the numerator

A. $\frac{\sqrt{x+5}-\sqrt{5}}{x}$

B. $\frac{\sqrt{x+49}-7}{x}$

C. $\frac{5-\sqrt{25-x}}{x}$

Rules of Exponents

Multiply like bases you	exponents	$x^a \cdot x^b$	
Divide like bases you	exponents	$\frac{x^a}{x^b}$	
Raise a power to a power you	exponents	$(x^a)^b$	
Anything raised to the zero power is		$(x^a)^0$	
When you move a base from a denominator to a numerator you	the sign of the exponent	$\frac{1}{x^a}$	
When you move a base from a numerator to a denominator you	the sign of the exponent	x^a	

Example 7:

A. $\frac{x^9 y^{10} z^7}{x^3 z^7 y^8}$

B. $(-m^2 n)^3$

C. $(x^2 y^{2n-4})^3 (x^3 y^{n+5})^2$

D. $\frac{(-km^2)^4}{(-km)^3 (k^2 m^5)}$

E. $(4r^2 t^{-2})^0 (6r^{-2} t^3)^3$

F. $\frac{20ab^{-7}c^{-3}}{15a^{-2}b^0c^{-5}}$

G. $(3t^{-3}q^2)^{-1}$

H. $\frac{(-a^3)^4}{(-a^4)^2}$

I. $\frac{3^{-1}}{1+9^{-1}}$