Warm Up

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

$10x^3 - 6x^2 + 4x + 5x^2 - 3x + 2$

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

$(3x - 5)^2 = 9x^2 - 30x + 25$

Simplify (expand)

$(3x - 5)^2 = 9x^2 - 30x + 25$

factor

Problems with the homework?

***FPCM 10*:**

Page 186: #6 to #12 & #15

Page 187: #16, #17 & #19

16. a) $20-2x$

b) $10-2x$

c) $A = l(w)$

$= (20-2x)(10-2x)$

$= 200-40x-20x+4x^2$

$= 200-60x+4x^2$

$= 4x^2-60x+200$

d) $V = A_{base} \times h$

$= x(4x^2-60x+200)$

$= 4x^3-60x^2+200x$

Factoring

There are 5 different kinds of Factoring:

- **Greatest common factor (GCF)**
- **Factor by grouping ("Pair them up")**
- **Simple Trinomials (Factor by Inspection) (A=1)**
- **Hard Trinomials (A>1)**
- **Special Factors**
  - **Difference of Squares**
  - **Perfect Square Trinomials**

Greatest Common Factor - there is a Greatest Common Factor amongst any number of terms in a polynomial

- factor out the GCF from the polynomial and multiply it against the remainder.

- sometimes the GCF may be a polynomial. ex: common binomial

EXAMPLES...

1) $5x^2 + 25x^3 - 30x^4$ **2)** $36x^7y^4 - 16x^3y^5 - 24x^5y^3$ **3)** $9x(a-b) - 14y(a-b)$

$5x^2(1+5x-6x^2)$ $4x^3y^3(9x^4y-4y^2-6x^2)$

$(a-b)(9x-14y)$

EXERCISE: Factor each of the following...

1) $20x+15y-30z$

$5(4x+3y-6z)$

2) $25x^7 - 50x^4$

$25x^4(x^3-2)$

3) $12x^3y^2 - 18xy$

$6xy(2x^2y-3)$

4) $3x(2x-1)+5(2x-1)$

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

Homework

GCF Worksheet

Attachments

FactoringGreatestCommonFactor.pdf