Factoring Review

Factoring a Polynomial

Common Factor

Binomial

Trinomial

Difference of Squares

Simple

Complex

-60

Perfect Square

100

$81x^2 - 16$

$3z^2 - 48z + 165$

$12p^2 + 17p - 5$

$4p^2 - 20p + 25$

One variable

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

$$= 3(z^2 - 16z + 55)$$

$$-11 \cdot -5 = 55$$
$$-11 + -5 = -16$$
$$= 3(z-11)(z-5)$$

$$20 \cdot -3 = -60$$
$$20 + -3 = 17$$

$$= (12p^2 + 20p) + (-3p - 5)$$

$$= 4p(3p+5) - 1(3p+5)$$

$$= (3p+5)(4p-1)$$

$$-10 \cdot -10 = 100$$
$$-10 + -10 = -20$$

same 2 numbers
means P.S.T.

$$= (2p-5)^2$$

check $= (2p-5)(2p-5)$

$-10p$

$-10p$

$-20p$

Two variables

$32x^4 - 162y^8$

$2(76x^4 - 81y^8)$

D.O.S.

$= 2(4x^2 + 9y^4)(4x^2 - 9y^4)$

$= 2(4x^2 + 9y^4)(2x + 3y^2)(2x - 3y^2)$

$6xy^2$

$-6xy^2$

$0xy^2$

$x^2 - 10xy - 39y^2$

$-13 \cdot 3 = -39$

$-13 + 3 = -10$

$-39y^2$

$= (x - 13y)(x + 3y)$

$-10xy$

$12m^2 + 2mn - 70n^2$

$= 2(6m^2 + mn - 35n^2)$

-210

$-14 \cdot 15 = -210$

$-14 + 15 = 1$

$= 2\left[(6m^2 - 14mn) + (15mn - 35n^2)\right]$

$= 2\left[2m(3m - 7n) + 5n(3m - 7n)\right]$

$= 2(3m - 7n)(2m + 5n)$

1764

$49r^2 + 84rs + 36s^2$

$42 \cdot 42 = 1764$

$42 + 42 = 84$

$= (7r + 6s)^2$

Review pg. 198 #(11 - 22, 24 - 35) ace