

Date: 02.14.19

Multiplying Polynomials:

$$3x^2 \cdot 5x^5 = 15x^7$$

Web assign problem 7.

$$y^2(3y^2 + 3y - 4) \\ = 3y^4 + 3y^3 - 4y^2$$

Problem 8.

$$(4 - 3.5y)(6y^3) \\ = 24y^3 - 21y^4 \\ = -21y^4 + 24y^3 \quad (\text{standard form})$$

$$\# (x-7)(x+12) \\ = x^2 + 12x - 7x - 84 \\ = x^2 + 5x - 84$$

$$(x-7)(x+7) = x^2 + \cancel{7x} - \cancel{7x} - 49 \\ = \boxed{x^2 - 49}$$

$$(x+7)(x+7) = x^2 + 7x + 7x + 49$$

$$(x+7)^2 = \boxed{x^2 + 14x + 49}$$

Perfect Square

General forms of Binomial Square :

$$(a+b)^2 = a^2 + 2ab + b^2$$

$$(a-b)^2 = a^2 - 2ab + b^2$$

$$(2x+5)^2 = (2x)^2 + 2(2x)(5) + (5)^2 \\ = 4x^2 + 20x + 25$$

Binomial cube :

$$(a+b)^3 = a^3 + 3a^2b + 3ab^2 + b^3$$

$$(a-b)^3 = a^3 - 3a^2b + 3ab^2 - b^3$$

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

$$a = 2x ; b = 5$$

$$= (2x)^3 + \underset{3 \cdot 4x^2 \cdot 5}{3 \cdot (2x)^2 \cdot 5} + \underset{3 \cdot 2x \cdot 25}{3 \cdot (2x) \cdot 5^2} + 5^3$$

$$= \boxed{8x^3 + 60x^2 + 150x + 125}$$