

Algebra II/Pre–Calculus *Honors*

Assignment P.3

Section Page: 13
Problems: 7, 13, 17, 35, 49, 63

Michael Brodskiy

7.)

Polynomial: $14x - \frac{1}{2}x^5$

a.) Polynomial standard form:

$$\frac{1}{2}$$

b.) Polynomial degree & leading coefficient

$$5, \frac{1}{2}$$

c.) Classify polynomial (monomial, binomial, trinomial)

binomial

13.)

$$\frac{3x+4}{x} \implies \text{not a polynomial}$$

17.)

$$(6x + 5) - (8x + 15) \implies -(2x + 10) = -2x - 10$$

35.)

$$(3x - 5)(2x + 1) \implies 6x^2 + 3x - 10x - 5 = 6x^2 - 7x - 5$$

49.)

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

$$\begin{aligned} & \text{ /* } (\mu - \nu)^3 = \mu^3 - 3\mu^2\nu + 3\mu\nu^2 - \nu^3 \text{ */} \\ (2x - y)(2x - y) & \implies 4x^2 - 2xy - 2xy + y^2 = 4x^2 - 4xy + y^2 \\ (4x^2 - 4xy + y^2)(2x - y) & \implies 8x^3 - 4x^2y - 8x^2y + 4xy^2 + 2xy^2 + y^3 \\ 8x^3 - 4x^2y - 8x^2y + 4xy^2 + 2xy^2 + y^3 & \implies 8x^3 - 12x^2y + 6xy^2 + y^3 \\ \therefore (2x - y)^3 & = 8x^3 - 12x^2y + 6xy^2 + y^3 \end{aligned}$$

63.)

Subtract $4x^2 - 5$ from $-3x^3 + x^2 + 9$

$$\begin{aligned} & (-3x^3 + x^2 + 9) - (4x^2 - 5) \\ & -3x^3 - 3x^2 + 14 \end{aligned}$$