

## Math 70 Quiz #10 Answers

1. The term  $2x^3y$  has degree 4. (The power of  $x$  is 3 and the power of  $y$  is 1. The degree of the term is the sum of the two powers.)

The term  $6x^3y^3$  has degree 6. (The power of  $x$  is 3 and the power of  $y$  is 3. The degree of the term is the sum of the two powers.)

The degree of the polynomial is 6 since that is the highest degree of the terms.

This polynomial is a binomial since it has two terms.

2. (a)  $(4x^2 - x - 2) + (2x^2 + 5x - 6) = \boxed{6x^2 + 4x - 8}$

(b)  $(\frac{1}{2}x^3 + x) + (\frac{2}{3}x^3 - x) = \boxed{\frac{7}{6}x^3}$       since  $\frac{1}{2} + \frac{2}{3} = \frac{3}{6} + \frac{4}{6} = \frac{7}{6}$     and  $x + (-x) = 0$

(c)  $(3xy - 7x + 2y) - (xy - 5x - y) = (3xy - 7x + 2y) + (-xy + 5x + y)$   
 $= \boxed{2xy - 2x + 3y}$

(d)  $2x^4(3x + 9x^2 - \frac{1}{2}y) = \boxed{6x^5 + 18x^6 - x^4y}$       (Distributing the  $2x^4$ )

(e)  $(x - 5)(x + 6) = x^2 + 6x - 5x - 30$       (FOIL)  
 $= \boxed{x^2 + x - 30}$