

King Fahd University of Petroleum and Minerals
Prep-Year Math Program
Math 001- Term 061
Quiz # 3

Name: _____ S/N: _____ ID: _____ Sec: _____

Question1

Factor completely

a) $(y + 3)^3 + 8$

Solution:

$$[(y + 3) + 2][(y + 3)^2 - 2(y + 3) + 4] = (y + 5)(y^2 + 6y + 9 - 2y - 6 + 4) = (y + 5)(y^2 + 4y + 7)$$

b) $25y^{2m} - (x^{2n} - 2x^n + 1)$

Solution:

$$25y^{2m} - (x^{2n} - 2x^n + 1) = 25y^{2m} - (x^n - 1)^2 = [5y - (x^n - 1)][5y + (x^n - 1)] = (5y - x^n + 1)(5y + x^n - 1)$$

Question2

For the polynomial $(5x^3 - 3x + 4)(3x^2 - 4x + 7)$, find the coefficient of x^2 .

Solution:

$$15x^5 - 20x^4 + 35x^3 - 9x^3 + 12x^2 - 21x + 12x^2 - 16x + 28$$

The coefficient of x^2 is equal to 24