

$$\underbrace{x(x+1)(x+2)}_1 - \underbrace{3(x-2)(x+2)}_2 + \underbrace{2(x-6)}_3 =$$

$$1) x(x+1)(x+2) = x(x^2 + 2x + x + 2) = x(x^2 + 3x + 2) = x^3 + 3x^2 + 2x$$

$$2) 3(x-2)(x+2) = 3(x^2 - 4) = 3x^2 - 12$$

$$3) 2(x-6) = 2x - 12$$

$$4) x^3 + 3x^2 + 2x - 3x^2 + 12 + 2x - 12 = x^3 + 4x = (-1)^3 + 4(-1) = -1 - 4 = -5$$