W4 – 2.3 – Solving Polynomial Equations
MHF4U

1) Determine the solutions of the following polynomials.

a) $(3x+2)(x+9)(x-2)=0$

b) $(x^2+1)(x-4)=0$

2) Determine the solutions of the following polynomials by factoring. Use the tools you have learned this unit to help you. (remainder theorem, integral zero theorem, division etc.)

a) $x^3-4x^2-3x+18=0$

b) $x^3-3x^2-4x+12=0$

c) $x^4 - x^3 - 11x^2 + 9x + 18 = 0$

d) $x^3 - 64 = 0$

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

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

e) $2x^3 - 7x^2 + 10x - 5 = 0$

3) Solve each equation by first factoring the sum or difference of cubes.

a) $x^3 - 8 = 0$

b) $x^3 + 27 = 0$

4) Solve by factoring

a) $x^3 - 4x^2 - 7x + 10 = 0$

b) $2x^3 - 11x^2 + 12x + 9 = 0$

c) $x^4 - x^3 - 2x - 4 = 0$