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GRADE12 APPLIED
UNIT C – FUNCTIONS
CUBIC EQUATIONS

Name: _____
Date: _____

Round all answers to 2 decimal places where appropriate

1.   Consider the polynomial and cubic function:
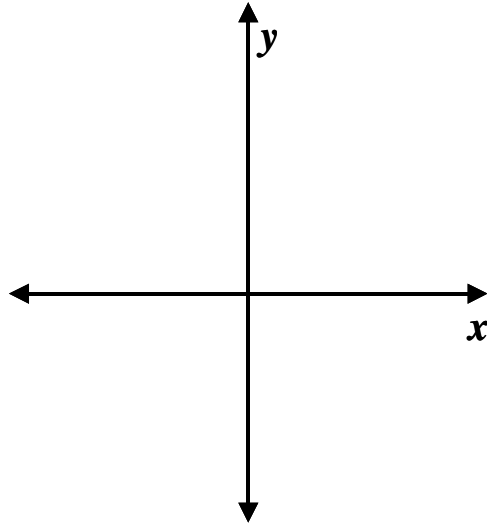
$$y = 5x^3 - 3x^2 - 4x - 7 .$$

a.   *sketch* it at the right. Exaggerate it a bit to make it more clear if necessary

b. what are the coordinates of the relative (local) minimums and maximums?

Min: (_____, _____)

Max: (_____, _____)

c.   What are the coordinates of the y-intercept? (_____, _____)

d.   What are coordinates of the x – intercept(s). (_____, _____)

e.   Discuss the end (extreme x value) behaviour (ie: what happens way way out at the right and the left)
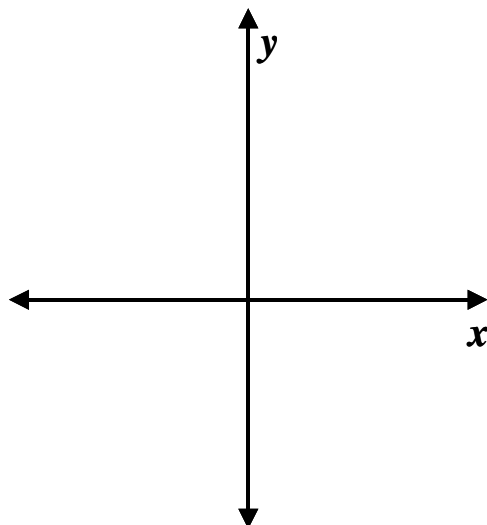
2.   Consider the polynomial and cubic function:

$$y = -3x^3 + 4x^2 + 6x - 5 .$$

a.   *sketch* it at the right. Exaggerate it a bit to make it more clear if necessary

b. what are the coordinates of the relative (local) minimums and maximums?

Min: (_____, _____)

Max: (_____, _____)

c.   What are the coordinates of the y-intercept? (_____ , _____)

d.   What are coordinates of the x – intercept(s). (_____ , _____)

e.   Discuss the end (extreme x value) behaviour (ie: what happens way way out at the right and the left)

3.   What are the zeros of the function $y = x^3 + x^2 - 5x - 10$?

4.   What are the zeros of the cubic function $y = x*(x - 3)*(x - 1)$?

5.   If you have the following data

K Independent Variable	⁻3	0	3	5	8
P Dependent Variable	⁻6.00	1.75	⁻0.90	3.10	34.90

a.   Find the best fit cubic equation using regression.

P = _____

b.   Find the coordinates of the relative minimum.

c.   find the value of P when K = 6.5

d.   At what value of K does P = 20?