

Name _____

Date _____

Advanced Algebra

Unit 2: Family of functions

Assignment #18 Unfamiliar functions #2

1) $f(x) = 8x^4 + 4x^3 - 3x^2$

a) Factor this function by dividing out the x^2 .

b) Use your factored equation from above to find the x intercepts of this function. You should be able to use the quadratic formula. $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Final x intercepts

c) Find the y intercept of this function by substituting Zero in for x.

Final y intercept

d) Make a graph of this function $f(x)$ and label all important points. Local Max, Local Min, x intercept, y intercept...

$$f(x) = \frac{(4x-2)(x+6)}{x^3}$$

a) What are the x intercepts of this function?

X intercept(s)

b) What is the y intercept of this function?

Y intercept

c) What is the vertical asymptote

d) Sketch this information from a, b and c on a graph below. **Just include the information from above.** (4marks)

e) Use the **vars** button to test at least 6 important points. Show what values you tested.

(6mark)

X value test 1 _____

x value test 2 _____

X value test3 _____

x value test4 _____

X value test 5 _____

x value test 6 _____

f) Now sketch the entire shape of the original function f(x)

(4marks)

3) I can show where the parabola and line intersect by hand

Given $x^2 - 8x - 4$ and the line $x+2$

a) Sketch the parabola and the line that intersects this parabola. (2marks)

b) Show by using the quadratic formula and by setting the equations equal to each other the intersection of the two graphs. (3marks)

c) Hence, what are the 2 x values where the line intersects the parabola (2marks)

4) I can show where graph intersect with technology