Name:

MTH133
Unit 4– Individual Project – B

1. Graphing Transformations

a) Given the function $f(x) = \sqrt{x}$ complete the following table. Must show all work for full credit.

Answer:

x	f(x)
0	
1	
4	
9	
16	

Show Work:

b) Using the table from part a, graph the function $f(x) = \sqrt{x}$. For a tutorial on creating graphs in Excel and inserting graphs of functions please see the Assignment List.

Answer:

c) Given the function $f(x) = \sqrt{x+1}$ complete the following table. Must show all work for full credit.

Answer:

X	f(x)
-1	
0	
3	
8	
15	

Show Work or Explain in Words:

d) Using the table from part c, graph the function $f(x) = \sqrt{x+1}$. For a tutorial on creating graphs in Excel and inserting graphs of functions please see the Assignment List.

e) Given the graph of y=f(x) describe in words the transformation of y=f(x+1).

2) Find the domain of the function and express the answer in interval notation. Explain in words or show the calculations for full credit.

a) f(x) = 3x - 1

b) $g(x) = \sqrt{x+5}$

c) $f(x) = \dfrac{16x}{x^2 + 9}$

d) g(x) = $13x^2 - 5x + 9$

e) $f(x) = \dfrac{6}{x-5}$

3. Finding equations of asymptotes of rational functions. Recall that asymptotes are lines therefore the answer must be given as an equation of a line.

a) Find the equations of both the horizontal and vertical asymptotes of the rational function $f(x) = \dfrac{5x-1}{x^2+9}$

b) Find the equations of both the horizontal and vertical asymptotes of the rational function $f(x) = \dfrac{2x^2+8}{x-1}$

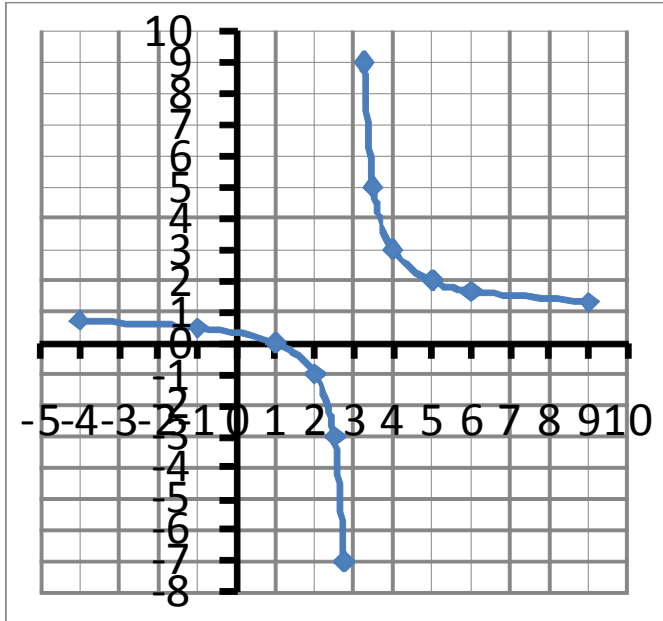c) Given the graph of a rational function find the equations of both the vertical and horizontal asymptotes.

d) In words explain what an asymptote is.