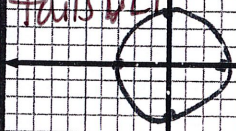


Ticket #1 Ch 2 Review

Are the following relations functions? Explain your answer

State Domain and Range

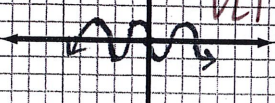
a. Not a function fails VLT



$[-3, 3]$ Domain

$[-3, 3]$ Range

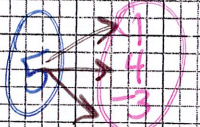
b. Function passes VLT



Domain $(-\infty, \infty)$
Range $[-1, 1]$

c. $\{(7, 5), (8, 5), (9, 5)\}$ Function

d. $\{(5, 1), (5, 4), (5, 3)\}$ Not a function fails VLT

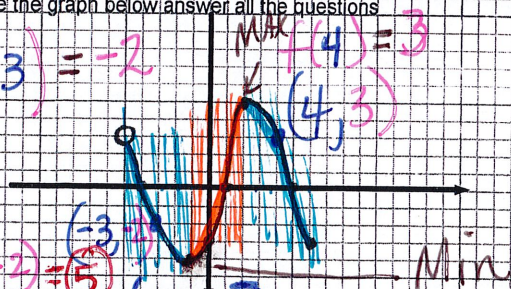


Not a function fails VLT

Ticket #2 Ch 2 Review

Use the graph below answer all the questions

$f(-3) = -2$



a. $f(4) - f(-3)$

$3 - (-2) = 5$

b. What is the domain?

$[-5, 6]$

c. What is the Range?

$[-4, 5]$

d. On which interval or intervals is f increasing?

$(-1, 2)$

e. Which intervals or interval is the function f decreasing?

$(-5, -1)$ and $(2, 6)$

f. for what number does f have a relative maximum? What is it?

2

g. for what number does f have a relative min? What is it?

5

h. Name the x-intercepts

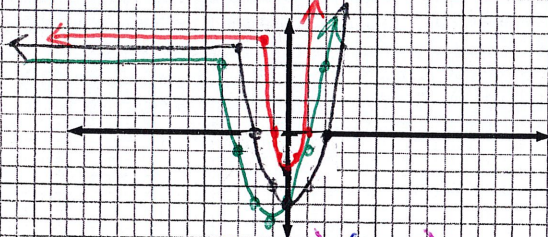
$(4, 0)$, $(1, 0)$, $(5, 0)$

i. Name the y-intercepts

$(0, -3)$

Ticket #3 Ch 2 Review

Use the graph below answer all questions



a. What are the zeros of f? $(-2, 0)$, $(2, 0)$

b. find value(s) of x for which $f(x) = -3$? $(-1, -3)$, $(1, -3)$

c. Find value(s) of x for which $f(x) = 0$? $(-2, 0)$, $(2, 0)$

d. is f even, odd, or neither? neither

e. Does f have an inverse? no because fails VLT

f. Is $f(0)$ a relative min or max? $(0, -4)$ Min

g. Graph $g(x) = f(x+1) - 1$ Maxed left + 1 down 1

h. Graph $h(x) = 5f(1/5x)$

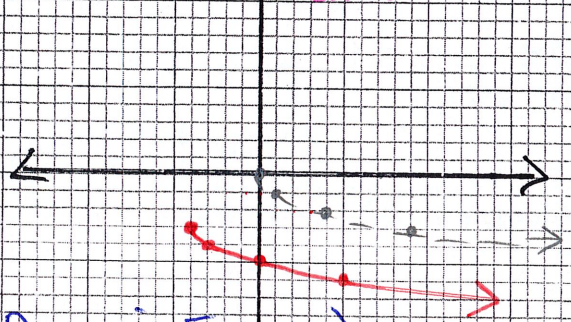
i. Find the average rate of change from $x_1 = -2$ to $x_2 = 1$

$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - (-3)}{-2 - (-2)} = \frac{3}{0}$

Ticket #4 Ch 2 Review

Graph the equation and state the domain and range

$y = -\sqrt{x+4} - 3$ parent $y = -\sqrt{x}$
Left 4 down 3



Domain $[-4, \infty)$

Range $(-\infty, -3]$

x	y
0	0
1	-1
4	-2
9	-3

parent function

Points of $f(x)$

x	y
-3	5
-2	0
-1	-3
0	-4
1	-3
2	0
3	5

$f(x) = \text{Mult } x \text{ by } \frac{1}{2} \text{ Mult } y \text{ by } \frac{1}{2}$

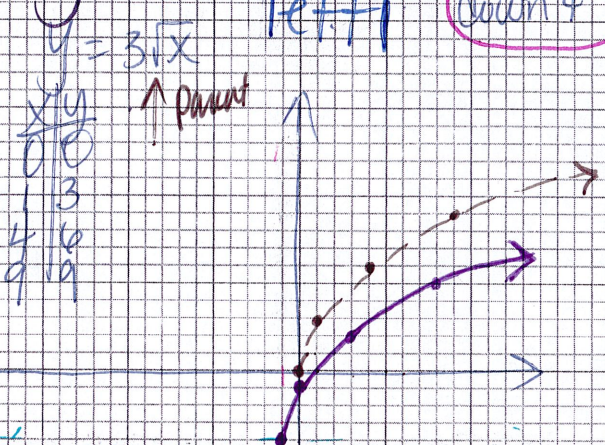
x	y
-1/2	1/2
0	0
1/2	-1/2
1	-2
3/2	3/2
2	5/2

Ticket #5 Ch 2 Review

Graph the function and state the domain and range

$$y = 3\sqrt{x+1} - 4$$

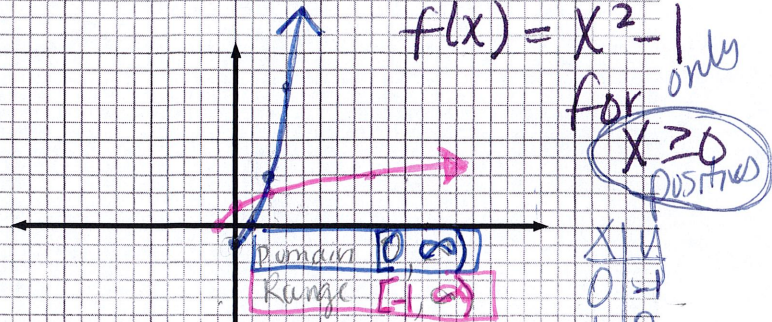
left + 1 (circled) down 4



Domain: $[-1, \infty)$
Range: $[-4, \infty)$

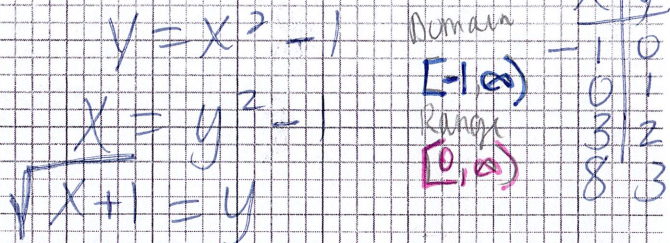
Ticket #6 Ch 2 Review

Graph the function and state the domain and range



Now graph the inverse on the same coordinate plane

$$f^{-1}(x) = \sqrt{x+1}$$



Ticket #7 Ch 2 Review

a) find $g \circ f(x)$

$$(2x-6) - (x^2 - x - 4)$$

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

Domain: $(-\infty, 3) \cup (3, \infty)$

c) $f \circ g(x) = f(2x-6)$

$$(2x-6) - (2x-6) - 4$$

$$4x^2 - 26x + 38$$

d) $g \circ f(1) = 10$
 $g(f(1)) = 10$
 $g(-2) = 10$

$$f(x) = x^2 - x - 4$$

$$g(x) = 2x - 6$$

$$(2x-6)(2x-6) = 4x^2 - 24x + 36 - 2x + 6 - 4$$

Ticket #8 Ch 2 Review

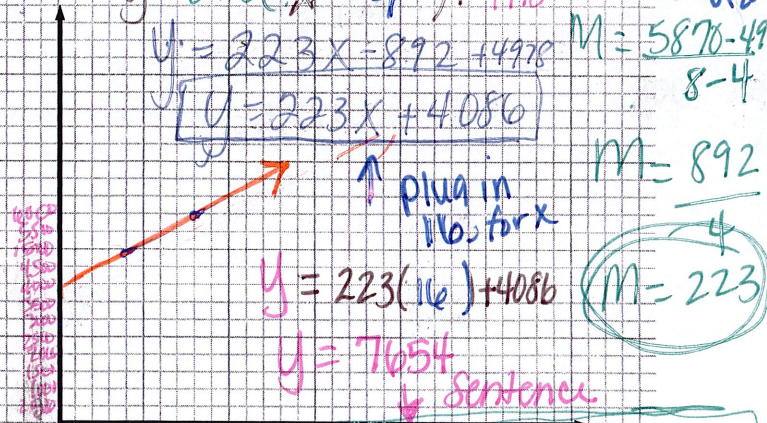
In 2004 the number of deaths due to distracted driving was 4978 and in 2008 the number of deaths was 5870. If the data was linear, write me an equation that models this situation. Graph the equation make sure you label your x and y axis. How many deaths can you predict for the year 2016 if this trend continues?

$$y = m(x-h) + k$$

$$y = 223(x-4) + 4978$$

$$y = 223x - 892 + 4978$$

$$y = 223x + 4086$$



In the year 2016 year you can expect 7654 deaths due to distracted driving.

Used 4 instead of 2004

(4, 4978)
(8, 5870)
8 instead of 2008

$$m = \frac{5870 - 4978}{8 - 4} = 223$$

$$m = 223$$

$$m = 223$$