

# Homework Examples 3

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## 1 Page 166

3) a)  $f(x)$  will approach  $+\infty$  as  $x$  approaches  $\infty$ .

b)  $f(x)$  will approach  $-\infty$  as  $x$  approaches  $-\infty$ , because  $x$  is raised to an odd power, in this case,

$$x^3$$

I did not understand this problem so I looked at the solution manual and a couple videos and understood it a little more.

$$16) (3x+1)(x+1)(4x+3)$$

Degree = 3

Leading Coefficient = 12

I found this question a little easier I believe I did this problem correctly.

19) a)  $f(x)$  will approach  $+\infty$  as  $x$  approaches  $\infty$ .

b)  $f(x)$  will approach  $+\infty$  as  $x$  approaches  $-\infty$ , because  $x$  is raised to an even power, in this case,

$$x^2$$

This question made more sense to me now that I did the first the problem but it was still tricky I had to look at a video to help me.

21) Maximum number of  $x$ -intercepts = 5

Turning Points = 4

This question I had to look up as I also did not fully understand but I understood it once I saw a video.

$$32) f(x) = 3(x+1)(x-4)(x+5)$$

$x$ -intercept =  $(-0.667, 0)$  and  $y$ -intercept =  $(0, 6)$

I am not sure if I answered this question correctly but I think I did it gave me some trouble.

## 2 Page 177

7)  $Y(x) = 2x^2 + 10x + 12$

Vertex =  $(-10/4, -1/2)$

x-int =  $(-3, 0)(-2, 0)$  and y-int =  $(0, 12)$

This question was tricky but I figured it out by taking it step by step and learning by videos.

16)  $k(x) = 3x^2 - 6x - 9$

Vertex =  $(1, -12)$

This question was hard for me because I did not know how to change a quadratic function to vertex form but I looked it up and learned and did it.

## 3 Page 178

19)  $-2/3 x^2 - 4/3x + 2$

This question was easy to understand after watching a video because they give you the x and y intercepts.

27)

a) 234 m

b) 2909.56 m

c) 47.735 sec

This question I answered by reading the question thoroughly and then looking at another question as a reference and then solved it. This question was very tricky.

## 4 Page 179

31) The amount of cardboard needed is 620. I got this answer by doing the quadratic formula than by doing  $24.90 * 24.90$  and then that gives us 620. This question was tricky I needed help doing it.

## 5 Page 191

19)  $(x-3)(x-2)^2 > 0$ , when  $x > 3$

I found out and did this problem by plugging in any numbers greater than 3 or less than 2 or in between 2 and 3 and if it is positive it is apart of my interval if it is negative it is not apart of it.

## 6 Page 192

31) The equation is  $-4 = (0+2)(0-1)(0-3)$

I got this equation by using the x-int's that the problem gave me.

## 7 Page 193

51)

$$x = 1.29$$

$$y = 8.61$$

$$\text{Base} = 2.58$$

$$\text{Height} = 6.67$$

I am going to be honest with this question I cheated and looked at the solution packet because I did not understand this at all but after rereading it and looking closely at how it was answered it helped me a little.

## 8 Page 202

$$21) Y = 7(x-4)(x+6)/(x+4)(x+5)$$

I answered this question by multiplying our function by 7 gives us a horizontal asymptote.

$$25) Y = 4(x+3)/(x-4)(x+3)$$

I answered this question by multiplying the function by 4 and gave us the result.

## 9 Page 209

$$3) f^{-1}(y) = -\text{SQUARE ROOT}12-y$$

i got this answer by finding the inverse.

$$17) (-1.4,0) (0,-10)$$

I found this answer by plugging the equation into desmos and than finding the zeros.

## 10 Page 217

$$6) 4 + \text{SQUARE ROOT OF } 5 i$$

I got this answer by watching a video and using a calculator this question was very tricky.

$$21) 3/2 + 5/2 i$$

I got this answer also by watching a video and using a calculator this question was also very tricky.

$$26) (0,5)$$

this question to be is very hard and i do not understand how to solve it i need help.

## 11 Page 234

16)  $(0,1.7)(5,0)$

This is all I know how to do for this problem it is really confusing and I do not know what to do I need help.

## 12 Page 235

24)  $y = 3x * 1 + 4$

I have absolutely no idea what i am doing.

## 13 Page 237

41) The asymptote is 6

Again, i have no idea what i am doing.

## 14 Page 138

49) You have to study for at least 4 hours.

This question was very confusing to me.

## 15 Page 245

3) The domain is 12?

Very confusing

6) The domain is 4?

Again, confusing.

14)  $-2 - 7x/x - 1$

I think i knew how to do this one tricky though.

## 16 Page 246-247

22) This question was very difficult do not understand

In general this project was very difficult I can not learn anything by just coming to class and asking 1 or 2 questions I feel like having a lesson or at least play a video and explain would be very helpful. I am having a lot of trouble with this class.