

NAME:

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**HOMEWORK 5.5**

Secondary Math II

**Turned  
in  
On Time**  
(4 pts.)0A. (2 pts.) State the domain and range for the following:  
 $\{(0,2), (2,-2), (3,5), (4,-7), (-3, 5)\}$  D:  $\{-3,0,2,3,4\}$  R:  $\{-7,-2,2,5\}$ 0B. (2 pts.) State the domain and range for the following:  
 $\{(1,3), (3,1), (2,6), (-1,0), (0,-1)\}$ 

1. (1 pt.) Write the domain and range in interval notation.

$$h(x) = -4x^2 - 3$$

2. (1 pt.) Find the roots/zeros.

$$g(x) = 3x^2 - 1$$

$$x = \pm\sqrt{\frac{1}{3}} \text{ or } x = \pm 0.577$$

3. (1 pt.) Multiply.

$$(8+i)(-3+4i)$$

**Classroom  
Exercise**

#4

(3 pts.)

4A. (1 pt.) Determine if the function is increasing or decreasing.

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

4B. (1 pt.) Determine if the function is increasing or decreasing.

x	0	1	2	3
y	1	-2	-5	-8

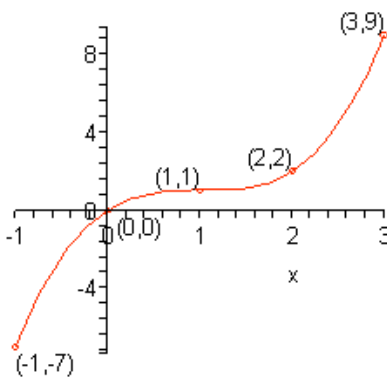
decreasing

4C. (1 pt.) Determine if the function is increasing or decreasing.

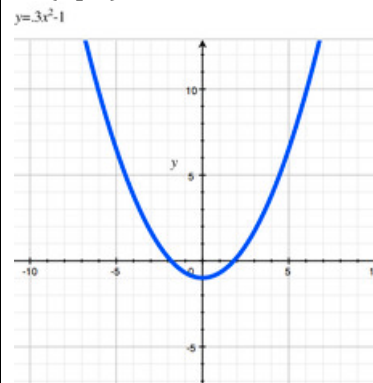
x	0	1	2	3
y	1	2	4	8

**Determine the end behavior from the graph provided.**

5. (1pt.)



6. (1pt.)

As  $x \rightarrow -\infty$ ,  $y \rightarrow \infty$ As  $x \rightarrow \infty$ ,  $y \rightarrow \infty$

# Classroom Exercise #7

(3 pts.)



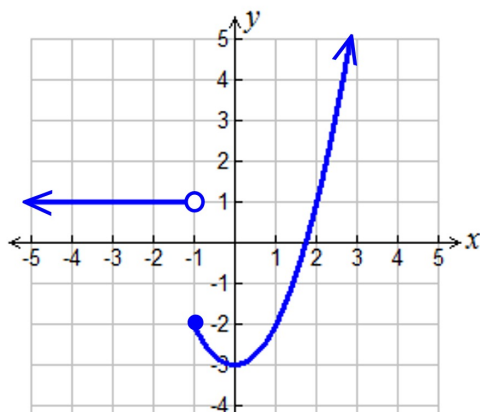
7A. (1 pt.) Determine if the function is increasing or decreasing?  
x-intercept  $(-2,0)$  and y intercept  $(0,4)$  increasing

7B. (1 pt.) Determine if the function is increasing or decreasing?  
x-intercept  $(5,0)$  and y intercept  $(0,2)$

7C. (1 pt.) Determine if the function is increasing or decreasing?  
x-intercept  $(-3,0)$  and y intercept  $(0,-6)$

List all of the key features for the graphs below.

8. (5 pts.)



X-Intercept:  $(1.9,0)$

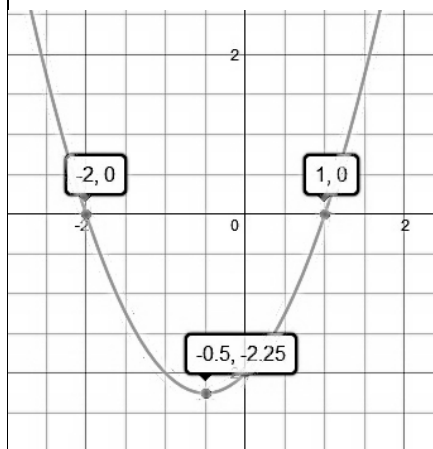
Y-Intercept:

Positive:  $(-\infty, -1) \cup (1.9, \infty)$

Negative:

End Behavior:

9. (5 pts.)



Increasing:

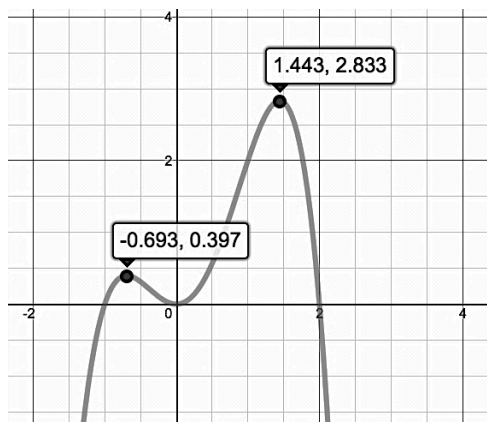
Decreasing:  $(-\infty, -0.5)$

Maxima: none

Minima:

End Behavior:

10. (5 pts.)



Increasing:  $(-\infty, -0.693) \cup (0, 1.443)$

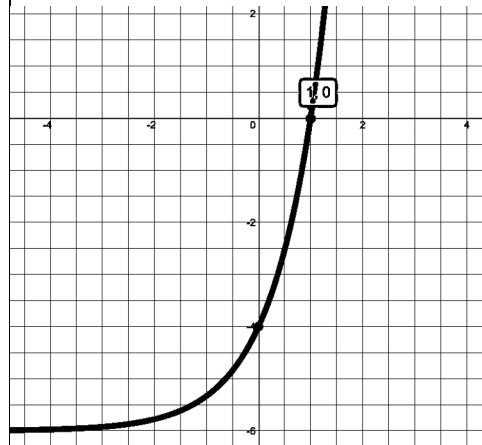
Decreasing:  $(-0.693, 0) \cup (1.443, \infty)$

Positive:  $(-1, 0) \cup (0, 2)$

Negative:  $(-\infty, -1) \cup (2, \infty)$

End Behavior:  $\text{As } x \rightarrow -\infty, y \rightarrow -\infty$   
 $\text{As } x \rightarrow \infty, y \rightarrow -\infty$

11. (5 pts.)



Positive:  $(1, \infty)$

Negative:  $(-\infty, 1)$

X-intercept:  $(1, 0)$

Y-intercept:  $(0, -4)$

End Behavior:  $\text{As } x \rightarrow -\infty, y \rightarrow -6$   
 $\text{As } x \rightarrow \infty, y \rightarrow \infty$