

M\$5 Homework 38

1. Graph $f(x) = -x^2 - 22.1x + 507$ on a graphing calculator.

a) State an appropriate window:

Xmin=	
Xmax=	
Xscl=	
Ymin=	
Ymax=	
Yscl=	

b) What is the maximum value of $f(x)$?

c) Find the zeros of $f(x)$
(the values of x where $f(x) = 0$).

d) Find the coordinates of the points of intersection of the graphs of $f(x)$ and $g(x) = 9.85x + 47$. Round all values to the nearest hundredth.

2. Examine each pair of equations and predict the graphs. Then use a graphing calculator to see if your prediction was correct. Describe the graphs.

- a) $y = x^2$ and $y = x^2 - 7$
- b) $y = x^2$ and $y = -0.3x^2$
- c) $y = x^2$ and $y = 2x^2 - 3$
- d) $y = |x|$ and $y = |x - 6| + 3$
- e) $y = |x|$ and $y = -4|x - 2|$

3. Graph $f(x) = [x]$ for the domain $-2 \leq x < 6$. State the range of the function.



4. The graph of $y = (x - 3)^2$ is shifted left 4 units and down 2 units. What is the axis of symmetry of the transformed graph?

- (1) $x = -2$
- (2) $x = 7$
- (3) $x = -1$
- (4) $x = 1$

5. Which equation represents the parabola shown in the accompanying graph?

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

