

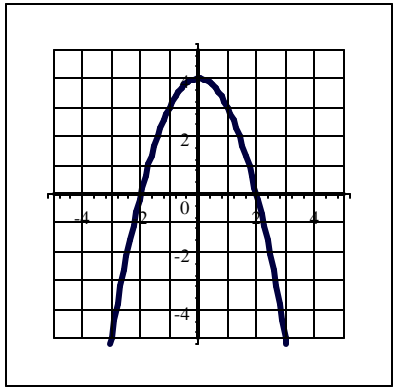
Redo Requirement for Chapter 8 and 11 Name: _____

If you are one of the students who must redo the Chapter 8 Test, you need to do the following problems, showing all work. Show the completed problems to me and check it. Also, write up your analysis of the mistakes you made on your first attempt and correct the problems you missed. Then, I'll write you a Testing Center ticket to try again.

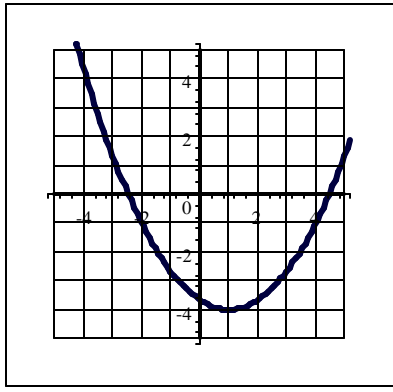
Evaluate the functions.

- 1. $f(x) = 3x^2 - 2x - 1$ at $f(2)$. 1. _____
- 2. $g(x) = 4x^2 - 16$ at $f(-3)$. 2. _____
- 3. $r(x) = x^2 - 5x - 6$ at $r(-1)$. 3. _____

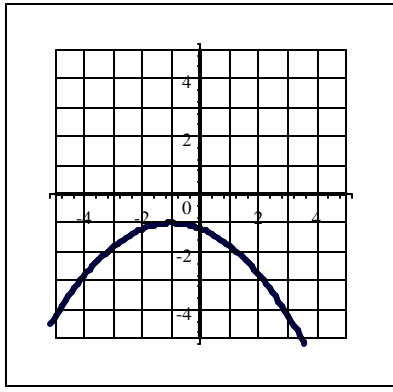
4. In each case use the graph of the given parabola to estimate the following: $f(-1)$, determine whether each graph is concave up or down, find the vertex, maximum or minimum, x-intercepts, y-intercepts, axis of symmetry, and range.



Graph #1



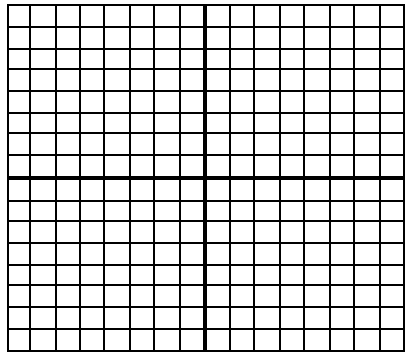
Graph #2



Graph #3

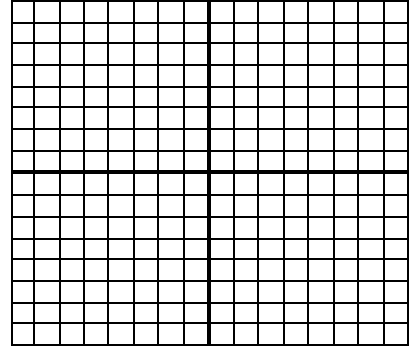
For the relation $y = x^2 - 6x - 1$,

- 5. Find the vertex.
- 6. Graph the relation.
- 7. Determine the range of the relation.
- 8. Is this relation a function? Justify your answer



For the relation $y = -\frac{1}{2}x^2 + 2$,

- 9. Label the vertex .
- 10. Graph the relation.
- 11. Determine the range of the relation.
- 12. Is the relation a function? Justify your answer



Complete the following table

	Function	a	b	c	Graph Wide/narrow	Concave Up/down	Vertex	Axis of symmetry	Y-intercept
13.	$y = \frac{1}{2}x^2 + x - 1$								
14.	$y = 5 + 8x - 2x^2$								
15.	$y = 2x^2 - 8$								

16. Find the x-intercepts. a. $f(x) = 9x^2 - 16$

b. $f(x) = 14x^2 + 19x - 3$

17a. The number of tickets sold each day for an upcoming concert is given by $N(x) = -0.4x^2 + 9x + 11$ where x is the number of days since the concert was first announced. When will the daily ticket sales peak and how many tickets will be sold that day.

17b. A company earns a weekly profit of P dollars by selling x items, according to the equation $P(x) = -300 + 40x - .5x^2$. Find the number of items the company must sell each week in order to obtain the largest possible profit. Then find the largest possible profit.

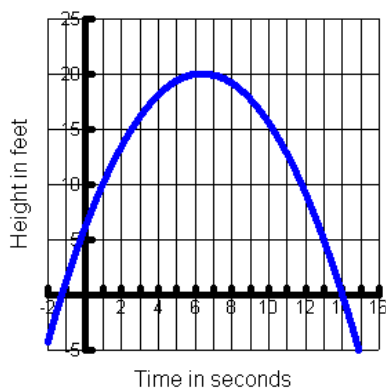
18a. John free-falls from 11,000 feet above the ground to 2500 feet when he opens his parachute. Use the vertical position equation, $s = -16t^2 + V_0t + S_0$ to determine the length of time John was falling.

18a. _____

18b. An egg was dropped from the top of a building at 300 ft. Use the vertical position equation, $s = -16t^2 + V_0t + S_0$ to determine how long it took for the egg to hit the floor.

18b. _____

19. Blaze throws a football into the air. Given the graph below answer the following questions.



- What was the initial height of the football?
- How high is the football after 2 seconds?
- How high is the football after 8 seconds?
- What is the maximum height of the football?
- When did the maximum height occur?
- How long did it take the football to reach the ground?

DSPM 0850 Chapter 8 & 11
Redo Answers

1. $f(2) = 3(2)^2 - 2(2) - 1 = 7$
2. $g(-3) = 4(-3)^2 - 16 = 20$
3. $r(-1) = (-1)^2 - 5(-1) - 6 = 0$
- 4.

	Graph #1	Graph #2	Graph #3
f(-1)	3	-2.5	-1
CU/CD	CD	CU	CD
Vertex	(0, 4)	(1, -4)	(-1, -1)
Max/Min	Max	Min	Max
X int	(-2,0) (2,0)	(-2.5, 0) (4.5, 0)	None
Y int	(0,4)	(0,-3.5)	(0,-1.2)
Axis of Sym	$x = 0$	$x = 1$	$x = -1$
Range	$(-\infty, 4]$	$[-4, \infty)$	$(-\infty, 1]$

5. (3,-10)
6. Look at Graph
7. $[-10, \infty)$
8. Yes, Vertical Line Test.
9. (0,2)
10. Look at Graph
11. $(-\infty, 2]$
12. Yes, Vertical Line test.

	a	b	c	Wide/Narrow	CU/CD	Vertex	Axis	Y-int
13.	$\frac{1}{2}$	1	-1	Wide	CU	(-1,-1.5)	$x = -1$	(0,-1)
14.	-2	8	5	Narrow	CD	(2,13)	$x = 2$	(0,5)
15.	2	0	-8	Narrow	CU	(0,-8)	$x = 0$	(0,-8)

16. a. $x = 4/3$ and $x = -4/3$ b. $x = 1/7$ and $x = -3/2$
17. a) (11.25, 61.625) Daily ticket sales will peak at 61.625 tickets, 11.25 days since the concert was first announced.
 b) (40,500) The company must sell 40 items to produce a maximum profit of \$500.
18. a) 23.05 sec. b) 4.33 sec.
19. a) 6 ft.
 b) 14 ft.
 c) 18 ft.
 d) 20 ft.
 e) 6 sec.
 f) 14 sec.