Quadratic Functions

1. Match up each of the graphs below with the following functions:

(a) $y = x^2 - 2$

(b) $y - 2 = (x + 1)^2$

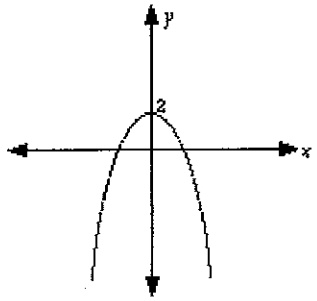
(c) $y = (x + 2)(x - 1)$

(d) $y = (x - 2)(x + 1)$

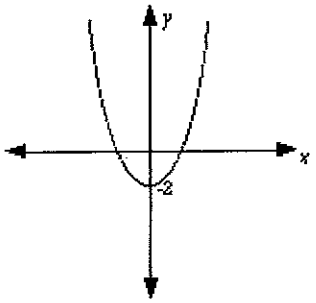
(e) $y = -x^2 + 2$

(f) $y = x^2 + 2$

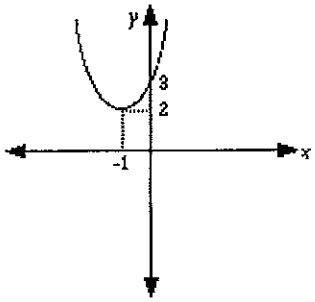
(i)



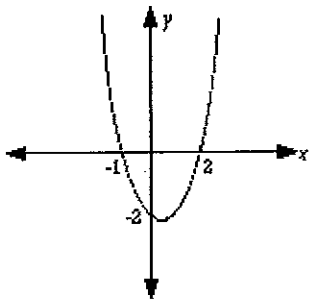
(ii)



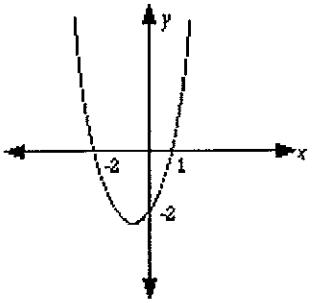
(iii)



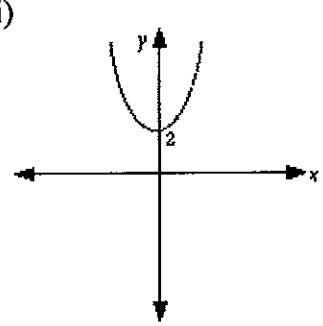
(iv)



(v)



(vi)



2. The sketch shows the function

$y = x(x - 2)$

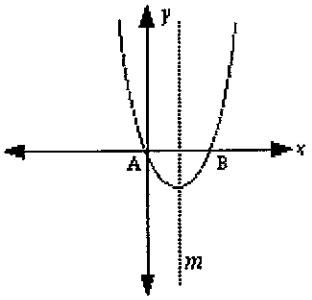
(a) What are the coordinates of A?

(b) What are the coordinates of B?

(c) What is the equation of m?

(d) What are the coordinates of the turning point of the curve?

(e) What is the minimum value of the function?



3. The sketch below is of the function
$y = (x - 2)(x + 3)$

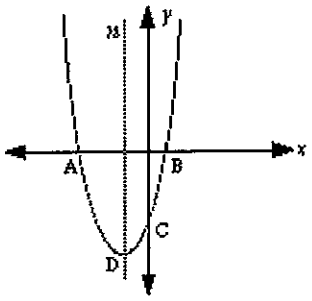
(a) What are the coordinates of A?

(b) What are the coordinates of B?

(c) What are the coordinates of C?

(d) What is the equation of the axis of symmetry n ?

(e) What are the coordinates of D, the turning point of the curve?



4. Sketch the graphs of the following functions, clearly marking all intercepts, the axis of symmetry, and the vertex of the curve.

(a) $y = (x - 2)(x + 4)$

(b) $y = x^2 - 7x + 6$

(c) $y = (x + 3)(x + 4)$

(d) $y = x^2 - 2x - 35$

(e) $y = (2x - 1)(x + 3)$

(f) $y = (3 - x)(x - 2)$

(g) $y = x^2 - 4x + 2$ (find x intercepts to 1 d.p.)

(h) $y = x^2 + 6x + 20$

5. Sketch the graphs of the following functions, clearly marking the vertex and the y-intercept. (no need to find x intercepts)

(a) $y = x^2 + 3$

(b) $y = (x + 2)^2 - 4$

(c) $y - 1 = x^2$

(d) $y + 3 = 2x^2$

(e) $y = -(x - 1)^2$

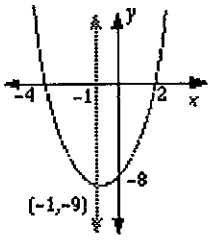
(f) $y = (x - 3)^2 + 1$

Quadratic Functions

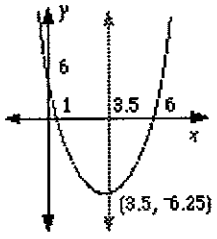
1.	2.	3.
(i) (e)	(a) (0, 0)	(a) (-3, 0)
(ii) (a)	(b) (2, 0)	(b) (2, 0)
(iii) (b)	(c) x = 1	(c) (0, -6)
(iv) (d)	(d) (1, -1)	(d) x = $-\frac{1}{2}$
(v) (c)	(e) -1	(e) $(-\frac{1}{2}, -6\frac{1}{4})$
(vi) (f)		

4.

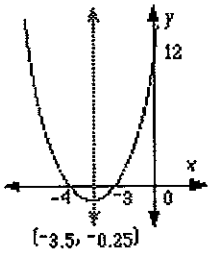
(a)



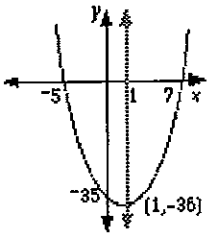
(b)



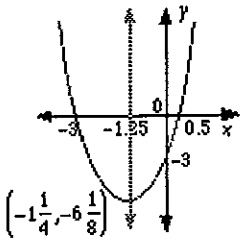
(c)



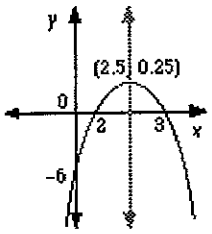
(d)



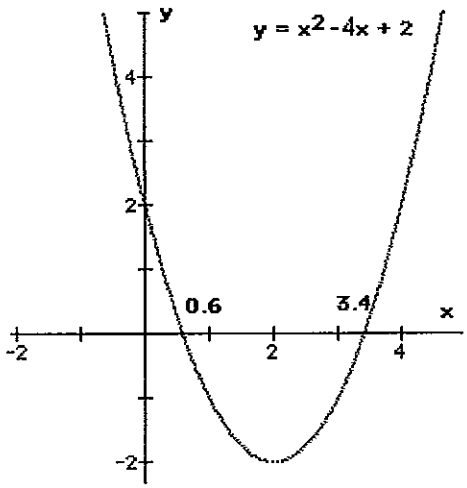
(e)



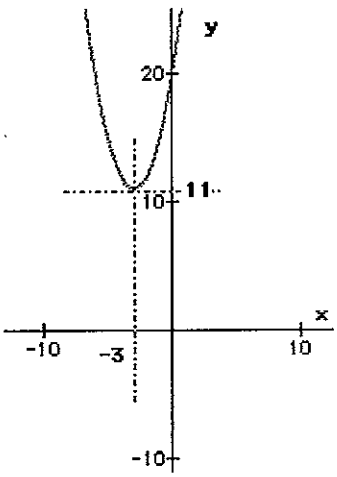
(f)



(g)

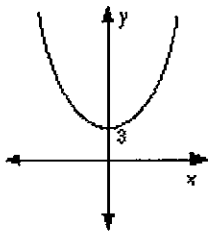

y = x² - 4x + 2
y
x
4
2
-2
0.6
3.4
-2
2
4

(h)

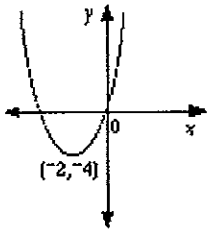

y
x
20
11
10
-10
-3
10
-10

5.

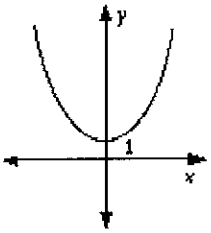
(a)


y
x
3

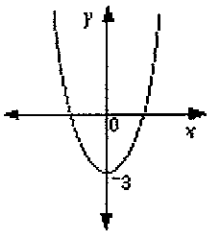
(b)


y
x
0
(-2,-4)

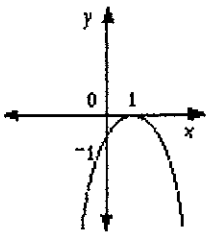
(c)


y
x
1

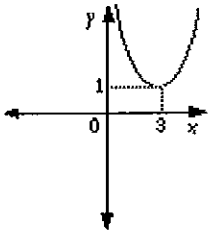
(d)


y
x
0
-3

(e)


y
x
0
1
-1

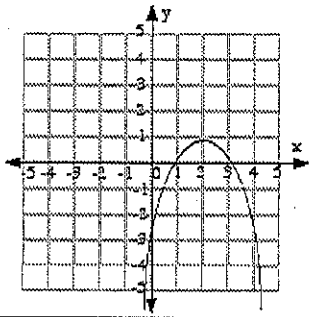
(f)


y
x
1
0
3

Quadratic Functions

Unit Test #20

Select your answers to the following 10 questions from the pop-up menus in the right hand column. When you are satisfied with your answers, fill in your name in the space provided below the test, and click the "**Submit Test**" button. Clicking the "Begin Test Again" button will clear all the answers.

Q1:	What is the axis of symmetry of the graph of $y = x^2 - 8x + 12$?	A. $x = 2$ B. $x = 4$ C. $x = 6$ D. $x = 8$	**Answer 1:**	
Q2:	In the figure below the graph could represent:  	A. $y = -(x - 2)^2 + 1$ B. $y = -(x - 1)^2 + 2$ C. $y = (x - 2)^2 + 1$ D. $y = -(x + 2)^2 + 1$	**Answer 2:**	
Q3:	Which of the following functions would **not** have a parabola for its graph?	A. $y + 9 = (x - 3)^2$ B. $y = (x - 3)(x + 3)$ C. $y = x(4 - x)$ D. $y^2 + x^2 = 9$	**Answer 3:**	
Q4:	Which function has a graph which is an inverted (upside down) parabola?	A. $y = 1 + x^2$ B. $y = 1 - x^2$ C. $y = x^2 - 1$ D. $-y = 1 - x^2$	**Answer 4:**	
Q5:	The graph of $y = x^2 - 8x + 12$ has x-intercepts of	A. 6 and 2 B. -6 and -2 C. 6 and -2 D. -6 and 2	**Answer 5:**	
Q6:	The graph of $y = x^2 - 8x + 12$ has a y-intercept of	A. 2 B. -8 C. 12	**Answer 6:**	

Q7:	Which point lies on the parabola $y = 2(x + 3)(x - 2)$?	A. (2, 0) B. (2, 10) C. (2, 20) D. (2, 8)	**Answer 7:**	
Q8:	How many x-intercepts has the graph of $y = x^2 - 3x + 6$?	A. 2 B. 1 C. 0 D. 3	**Answer 8:**	
Q9:	Which of the following functions has a parabola for its graph?	A. $y + 2x = 1$ B. $y = 2x + 5$ C. $y = 2x^2 - 6x$ D. $y^2 = -2x^2 + 6$	**Answer 9:**	
Q10:	The lowest point on the graph of the parabola $y = x^2$ is called the:	A. asymptote B. turning point C. axis of symmetry D. centre of rotation	**Answer 10:**	

Enter your initial and surname here:

Submit Test | Begin Test Again

ANSWERS: