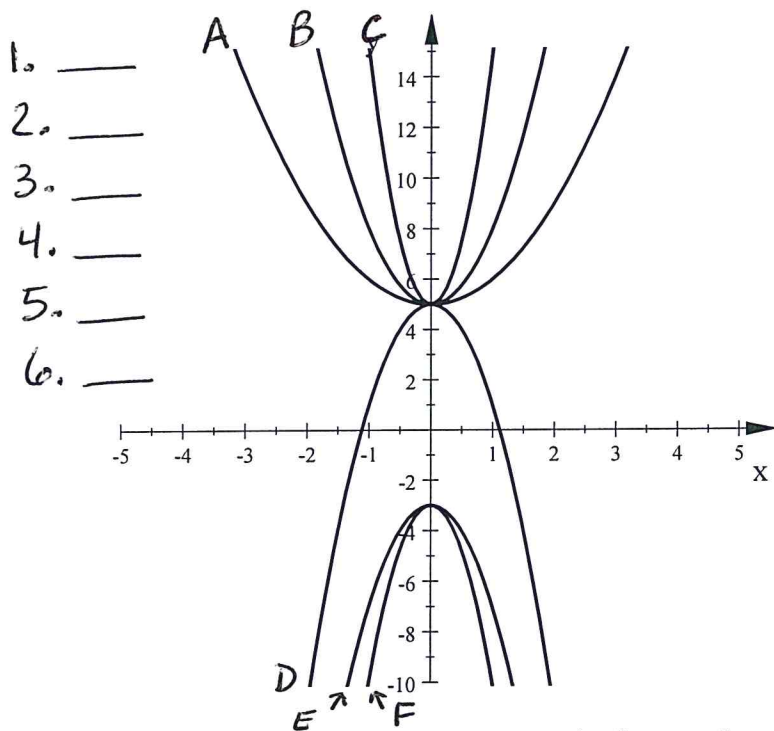


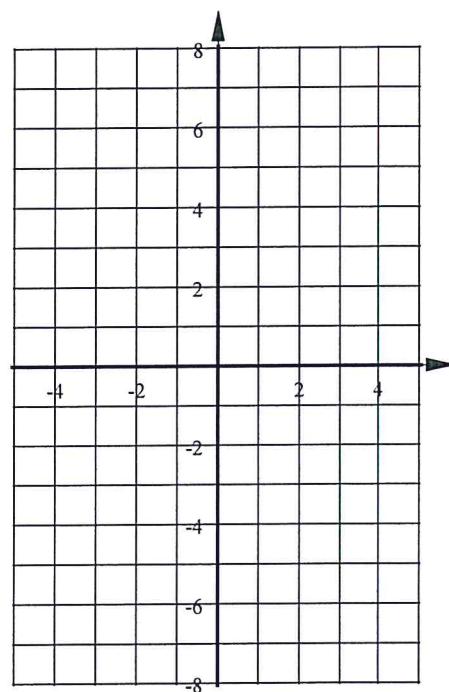
Match the graphs to their equations:

1.  $y = 3x^2 + 5$     2.  $y = -4x^2 + 5$     3.  $y = -4x^2 - 3$   
 4.  $y = -7x^2 - 3$     5.  $y = x^2 + 5$     6.  $y = 10x^2 + 5$



7. Graph this quadratic function with at least five points.

$$y = -4x^2 + 8$$



8. Use the letter to place these quadratic equations in order from Narrowest to Widest.

- A.  $y = 4x^2 - 10x + 7$     B.  $y = -9x^2 + x - 16$     C.  $y = -1.3x^2 + 8x - 12$   
 D.  $y = x^2 + 34x + 11$     E.  $y = -5x^2 - 7$

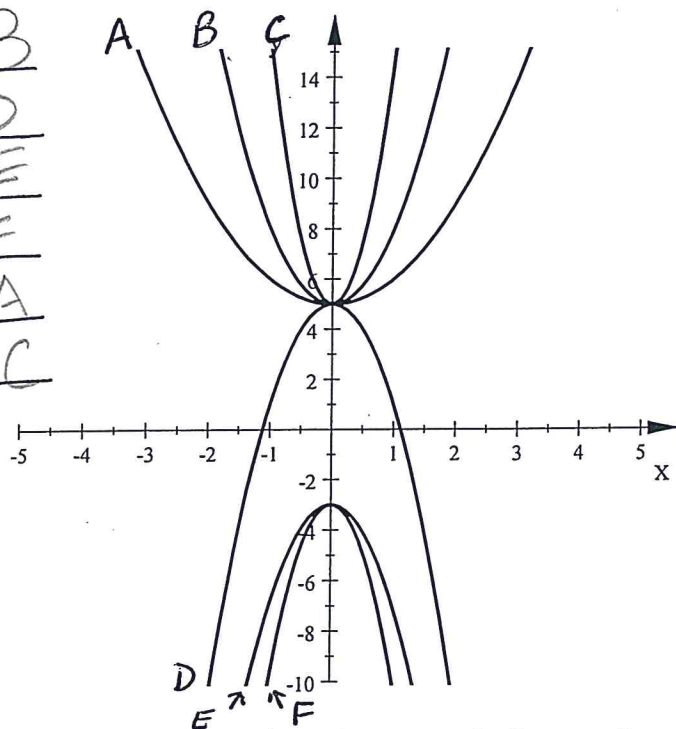
9. A ball is shot upward from the top of a 50 foot tall building with an initial velocity of 176 ft/s. The following quadratic equation models the height of the object ( $h$ ) as a function of time ( $t$ ):  
 $h(t) = -16t^2 + 176t + 50$

- a) How high will the object be in 4 seconds?  
 b) How high will the object be in 7 seconds?  
 c) Explain how your answers to parts a and b are possible.  
 d) When does the object reach its maximum height?  
 e) What is the objects maximum height?

Match the graphs to their equations:

1.  $y = 3x^2 + 5$  2.  $y = -4x^2 + 5$  3.  $y = -4x^2 - 3$   
 4.  $y = -7x^2 - 3$  5.  $y = x^2 + 5$  6.  $y = 10x^2 + 5$

1. B  
 2. D  
 3. E  
 4. F  
 5. A  
 6. C

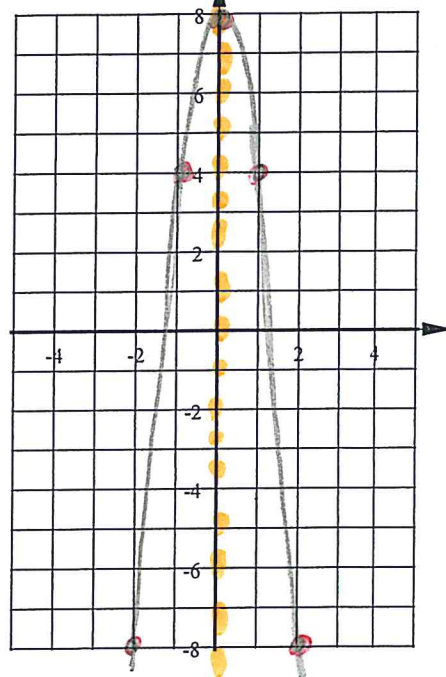


Answers

7. Graph this quadratic function with at least five points.

$y = -4x^2 + 8$

Vertex (0, 8)



X	Y
1	4
2	-8

8. Use the letter to place these quadratic equations in order from Narrowest to Widest.

~~A.~~  $y = 4x^2 - 10x + 7$  ~~B.~~  $y = -9x^2 + x - 16$  ~~C.~~  $y = -1.3x^2 + 8x - 12$

D.  $y = x^2 + 34x + 11$  ~~E.~~  $y = -5x^2 - 7$

B, E, A, C, D

9. A ball is shot upward from the top of a 50 foot tall building with an initial velocity of 176 ft/s. The following quadratic equation models the height of the object ( $h$ ) as a function of time ( $t$ ):

$h(t) = -16t^2 + 176t + 50$

a) How high will the object be in 4 seconds? 498 ft

$h(4) = -16(4)^2 + 176(4) + 50$

b) How high will the object be in 7 seconds? 498 ft

$h(7) = -16(7)^2 + 176(7) + 50$

c) Explain how your answers to parts a and b are possible.

It reaches this height twice, once on the way up & a 2nd time coming down

d) When does the object reach its maximum height?

half way between 4 & 7 sec 5.5 sec

e) What is the object's maximum height?

$h(5.5) = 534 \text{ ft}$

