

**Chapter 8, Test Form A**

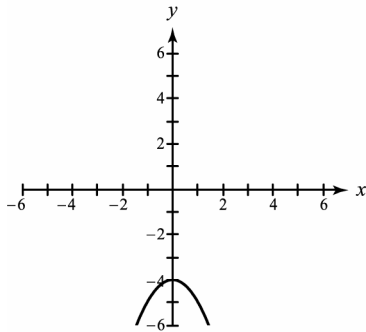
1.  $(1, 2); x = 1$

2.  $(2, -3); x = 2$   
 $f(-2) = -11$

3. 5

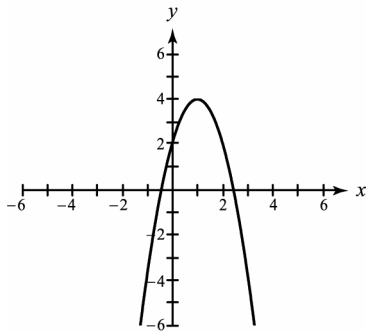
4.  $a = \frac{1}{2}$

5.



It is reflected across the  $x$ -axis and translated downward 4 units.

6.



It is reflected across the  $x$ -axis, narrower, and translated right 1 unit and upward 4 units.

7.  $y = (x + 2)^2 - 3$   
 $(-2, -3); x = -2$

8. 1  
 $f(2) = -2$

9.  $-\frac{4}{3}, 3$

10. -2, 2

11.  $\frac{-3 \pm \sqrt{17}}{2}$

12.  $\frac{2 + i\sqrt{2}}{3}$

13.  $\frac{1 \pm \sqrt{33}}{4}$

14. (a)  $a > 0$   
 (b)  $-1, \frac{3}{2}$   
 (c) positive

15. (a) discriminant = 0  
 (b) 1 real solution

16. (a) -1, 5  
 (b)  $x < -1$  or  $x > 5$   
 (c)  $-1 \leq x \leq 5$

17. (a)  $-\frac{3}{2}, 4$   
 (b)  $[-\frac{3}{2}, 4]$   
 (c)  $(-\infty, -\frac{3}{2}) \cup (4, \infty)$

18.  $(0, \frac{9}{2})$

19. -2, 2

20.  $\frac{-1 \pm i\sqrt{31}}{4}$

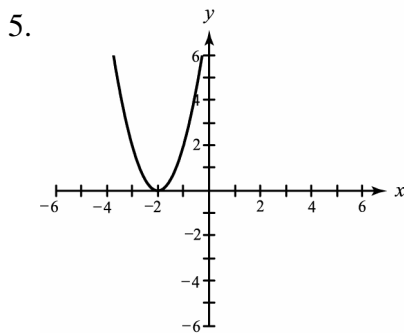
### Chapter 8, Test Form B

1.  $(3, -4); x = 3$

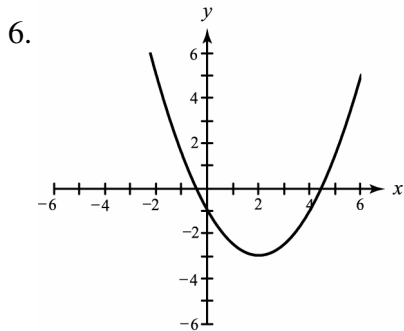
2.  $(3, 1); x = 3$   
 $f(6) = 4$

3. 9

4.  $a = -\frac{1}{3}$



It is narrower and translated left 2 units.



It is wider and is translated right 2 units and downward 3 units.

7.  $y = (x-1)^2 + 4$   
 $(1, 4); x = 1$

8. -3, 2  
 $f(0) = -6$

9.  $-\frac{1}{3}, 1$

10.  $-\frac{3}{2}, \frac{3}{2}$

11.  $\frac{5 \pm \sqrt{21}}{2}$

12.  $\frac{1 \pm \sqrt{33}}{4}$

13.  $\frac{3 \pm \sqrt{3}}{2}$

14. (a)  $a > 0$   
(b) -3  
(c) zero

15. (a) discriminant = -12  
(b) no real solutions

16. (a) -1, 5  
(b)  $-1 \leq x \leq 5$   
(c)  $x \leq -1$  or  $x \geq 5$

17. (a)  $-\frac{1}{3}, 4$   
(b)  $(-\frac{1}{3}, 4)$   
(c)  $(-\infty, -\frac{1}{3}] \cup [4, \infty)$

18.  $(-\infty, -4] \cup [0, \infty)$

19. -1,  $\sqrt[3]{2}$

20.  $\frac{-2 \pm i\sqrt{2}}{3}$

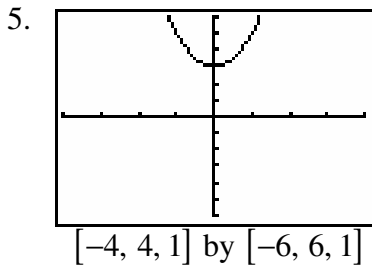
**Chapter 8, Test Form C**

1.  $(-2, -3); x = -2$

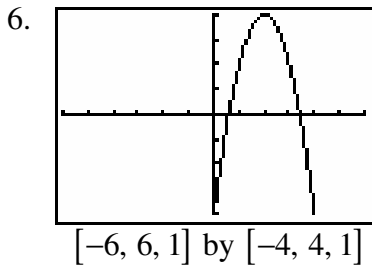
2. \$600

3. (a) 15 rooms  
(b) \$ 675

4.  $a = 2$



It is narrower and translated upward 3 units.



It is reflected across the  $x$ -axis, narrower, and translated right 2 units and upward 4 units.

7.  $y = (x - 2)^2 - 3$   
 $(2, -3); x = 2$

8.  $-1, 3$   
 $f(1) = 4$

9.  $-3, 1$

10. 4

11.  $-1 \pm \sqrt{6}$

12.  $\frac{3 \pm \sqrt{7}}{2}$

13.  $\frac{-3 \pm \sqrt{3}}{3}$

14. (a)  $a > 0$   
 (b) no real solutions  
 (c) negative

15. (a) discriminant = 0  
 (b) 1 real solution

16. (a)  $-1, 5$   
 (b)  $x \leq -1$  or  $x \geq 5$   
 (c)  $-1 < x < 5$

17. (a)  $-\frac{2}{3}, 5$   
 (b)  $(-\frac{2}{3}, 5)$   
 (c)  $(-\infty, -\frac{2}{3}] \cup [5, \infty)$

18.  $[-3, 0]$

19.  $-1, \sqrt[3]{4}$

20.  $\frac{-1 \pm 3i}{2}$

**Chapter 8, Test Form D**

- |        |         |         |         |
|--------|---------|---------|---------|
| 1. (c) | 6. (a)  | 11. (b) | 16. (d) |
| 2. (d) | 7. (c)  | 12. (c) | 17. (b) |
| 3. (a) | 8. (b)  | 13. (a) | 18. (a) |
| 4. (d) | 9. (c)  | 14. (c) | 19. (b) |
| 5. (b) | 10. (a) | 15. (c) | 20. (d) |