

## Practice Set Answers Chapter 10

### 10.1

1.  $\pm 8$  2.  $\pm 11$  3.  $\pm\sqrt{17}$  4.  $\pm 3$  5.  $\pm\frac{7}{4}$  6.  $\pm 5$  7.  $\frac{\pm\sqrt{14}}{2}$  8. 13, -5 9. 0, -2  
10.  $7\pm 2\sqrt{6}$  11. 5, -1 12.  $-5\pm 2\sqrt{2}$  13.  $3\pm\sqrt{7}$  14.  $-1\pm 2\sqrt{5}$  15. c = 5 meters  
16. a = 5 feet 17. 16 in. 18. 8 inches 19.  $5\sqrt{3}$  meters 20.  $\sqrt{26}$  21.  $2\sqrt{5}$  22.  $\sqrt{106}$   
23.  $\sqrt{17}$  24.  $\sqrt{5}$  25.  $\sqrt{37}$

### 10.2

1.  $-2x^2 + 8x + 16 = (x+4)^2$  2.  $x^2 - 10x + 25 = (x-5)^2$  3.  $x^2 + 16x + 64 = (x+8)^2$   
4.  $x^2 - \frac{3}{4}x + \frac{9}{64} = \left(x - \frac{3}{8}\right)^2$  5.  $x^2 + 5x + \frac{25}{4} = \left(x + \frac{5}{2}\right)^2$  6.  $x^2 - 3x + \frac{9}{4} = \left(x - \frac{3}{2}\right)^2$   
7.  $\{-3\pm\sqrt{7}\}$  8.  $\{-4, 2\}$  9.  $\{1, -4\}$  10.  $\{1+\sqrt{3}\}$  11.  $\{5\pm\sqrt{23}\}$  12.  $\left\{-4, \frac{1}{2}\right\}$   
13.  $\left\{\frac{-1\pm\sqrt{13}}{3}\right\}$  14.  $\left\{\frac{-3\pm\sqrt{3}}{3}\right\}$  or  $\left\{-1+\frac{\sqrt{3}}{3}\right\}$  15.  $\left\{\frac{1\pm\sqrt{11}}{2}\right\}$

### 10.3

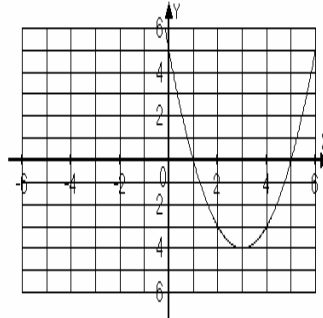
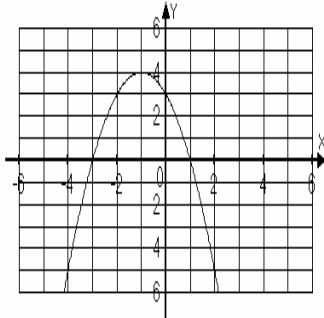
1.  $\{-3\}$  2.  $\{-6, 2\}$  3.  $\left\{-\frac{3}{2}, -2\right\}$  4.  $\left\{-\frac{5}{3}, 1\right\}$  5.  $\left\{-4, -\frac{1}{2}\right\}$  6.  $\{\sqrt{41}, -\sqrt{41}\}$   
7.  $\left\{\frac{-1\pm\sqrt{6}}{5}\right\}$  8.  $\left\{\frac{-7\pm\sqrt{61}}{2}\right\}$  9.  $\left\{\frac{5\pm\sqrt{13}}{6}\right\}$  10.  $\{5, 1\}$  11.  $\{-7, -1\}$   
12.  $\left\{\frac{-5\pm\sqrt{65}}{4}\right\}$  13.  $\{-5, 5\}$  14.  $\left\{\frac{-2\pm 2\sqrt{3}}{3}\right\}$  15.  $\{-2\sqrt{10}, 2\sqrt{10}\}$  16.  $\left\{\frac{1\pm 4\sqrt{2}}{5}\right\}$   
17.  $\left\{\frac{2\pm\sqrt{2}}{2}\right\}$  or  $\left\{1\pm\frac{\sqrt{2}}{2}\right\}$  18.  $\{-2\pm\sqrt{6}\}$  19.  $\left\{\frac{1\pm\sqrt{41}}{10}\right\}$  20.  $\left\{\frac{5}{3}, -1\right\}$

### 10.4

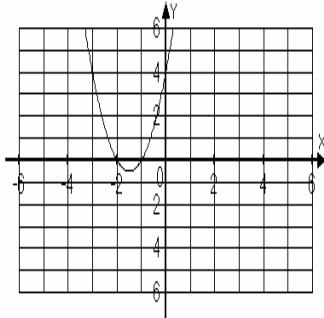
1.  $5i$  2.  $11i$  3.  $-2i\sqrt{6}$  4.  $3i\sqrt{2}$  5.  $i$  6. 0 7.  $2i\sqrt{11}$  8.  $i\sqrt{30}$  9.  $4+i\sqrt{7}$   
10.  $7+3i$  11.  $\{2\pm 5i\}$  12.  $\{-3\pm 2i\sqrt{2}\}$  13.  $\{1\pm 2i\sqrt{15}\}$  14.  $\{-5\pm i\sqrt{3}\}$  15.  $\{3\pm i\sqrt{5}\}$   
16.  $\left\{\frac{1\pm i\sqrt{6}}{4}\right\}$  17.  $\frac{5\pm i\sqrt{59}}{6}$  18.  $\frac{1\pm i\sqrt{15}}{2}$  19.  $\frac{3\pm i\sqrt{71}}{8}$  20.  $\frac{1\pm i\sqrt{19}}{10}$

**10.5**

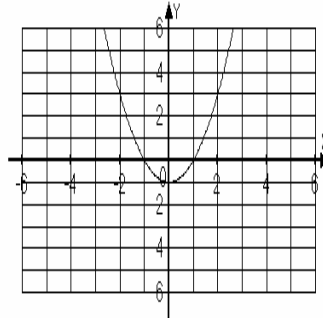
1. up 2. down 3. 4 and 1 4.  $(-4, -3)$  5.  $(0, 5)$  6.  $(0, 4)$  7.  $(-1, -4)$  8.  $(-2, 1)$   
 9.



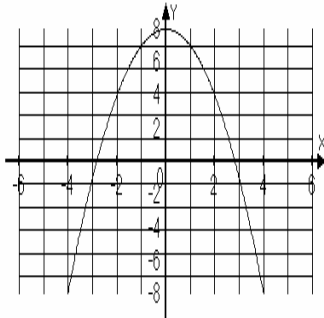
11.



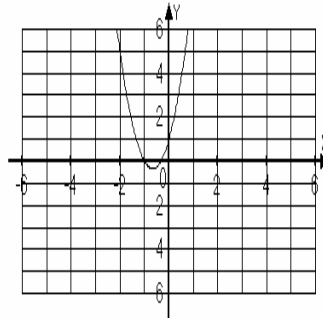
12.



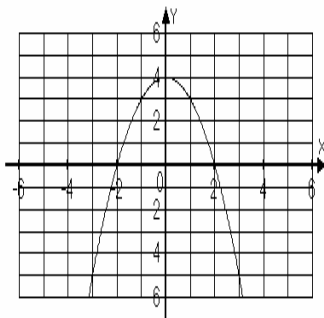
13.



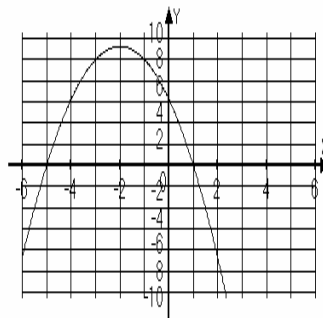
14.



15.



16.



**10.6**

- 1a. function b. domain:  $\{1, 4, 6\}$  c. range:  $\{2, 5, 9\}$  2a. not a function b. domain:  $\{3\}$   
 c. range:  $\{1, 2, 3, 4\}$  3a. not a function b. domain  $\{5\}$  c. range:  $\{1, 7, 11\}$   
 4a. function b. domain:  $\{1, 2, 3, 4\}$  c. range:  $\{2, 3, 4, 5\}$  5a 8 b. 7 c. 4  
 6a. 8 b. 4 c. 20 7a. 13 b. 5 c. 7 8a.  $-1$  b. 3 c. 23 9. not a function  
 10. function 11. not a function 12. function 13. not a function 14. function