

# ANSWERS FOR 5.6

For use with pages 295–298

## 5.6 Guided Practice

2. 2 real; 1 real; 2 imaginary  
4. 3 or 1  
6.  $\frac{-3 \pm \sqrt{31}}{4}$   
8.  $4 \pm \sqrt{15}$   
10. 17; 2 real    12. 0; 1 real  
14. 0; 1 real    16. 0.42 sec

## 5.6 Practice and Applications

18.  $\frac{-3 \pm \sqrt{17}}{2}$   
20.  $-5 \pm \sqrt{3}$   
22.  $\frac{7 \pm 3i\sqrt{3}}{2}$   
24. 4,  $-\frac{1}{3}$   
26.  $\frac{2}{3} \pm \frac{i\sqrt{2}}{6}$   
28.  $\frac{-1 + 3i}{4}$ ,  $\frac{-1 - 3i}{4}$   
30.  $\frac{2}{3} \pm 3i$     32.  $-2 \pm 4i$   
34.  $5 \pm \sqrt{11}$

36.  $\frac{-3 \pm \sqrt{37}}{2}$

38.  $-1 \pm \frac{\sqrt{3}}{3}$

40.  $-\frac{1}{3} \pm \frac{\sqrt{10}}{6}$

42.  $-\frac{1}{3} \pm \frac{i}{6}$

44.  $\frac{5 \pm \sqrt{22}}{3}$

46.  $\pm\sqrt{2}$

48.  $-2 \pm 5i$

50.  $-\frac{7}{2}$

52.  $1 \pm \sqrt{2}$

54.  $2 \pm \frac{\sqrt{5}}{3}$

56.  $-24$ ; 2 imaginary

58. 0; 1 real    60. 0; 1 real

62. 84; 2 real    64. 0; 1 real

66. negative

68. a.  $c < 1$     b.  $c = 1$

c.  $c > 1$

# ANSWERS FOR 5.6 (CONT.)

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70. a.  $c < 25$     b.  $c = 25$

c.  $c > 25$

72. a.  $c < 9$     b.  $c = 9$

c.  $c > 9$

74. *Sample answer:* the initial velocity substituted into the formula can be zero.

76.  $\approx 1.56$  in.

78.  $\approx 156.4$  ft/sec

80. a. 350 ft/sec;  $\approx 1914$  ft

b. 21.875 sec

82. B

84. a. maximum height occurs

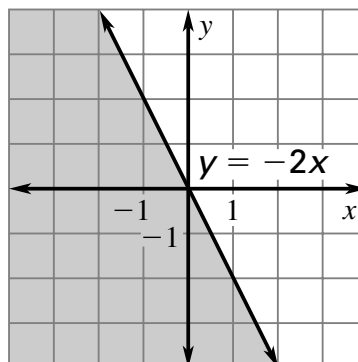
when  $t = \frac{v_0}{32}$ ,

$32\sqrt{10}$  ft/sec =  $v_0$

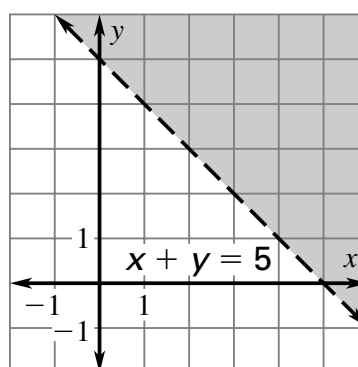
b.  $t = \sqrt{10}$  ft/sec  $\approx 3.16$  sec

*Sample answer:* If  $t = 2$  sec then  $v_0 = 32(2)^2 = 112$  ft/sec

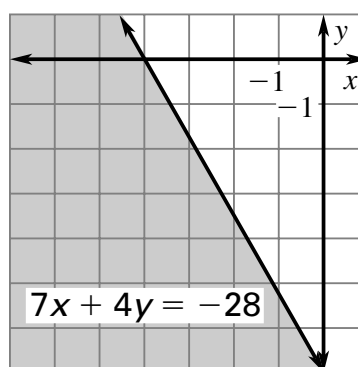
92.



94.



96.



## 5.6 Mixed Review

86.  $x \leq 3$

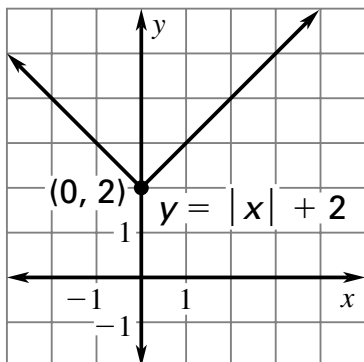
88.  $x < -1$

90.  $x \leq -4$  or  $7 < x$

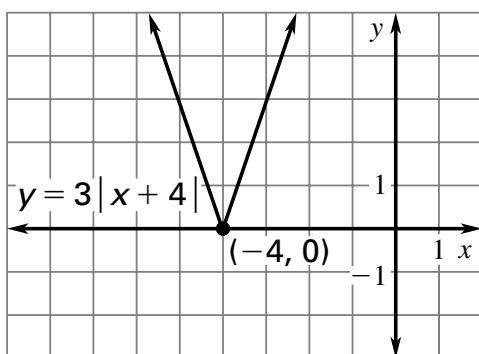
# ANSWERS FOR 5.6 (CONT.)

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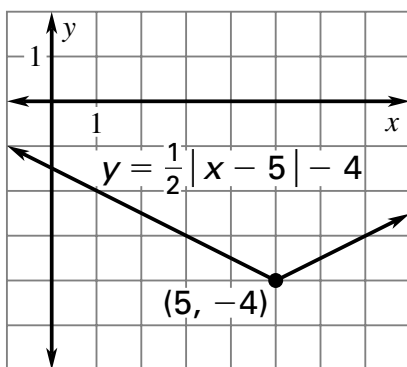
98.



100.



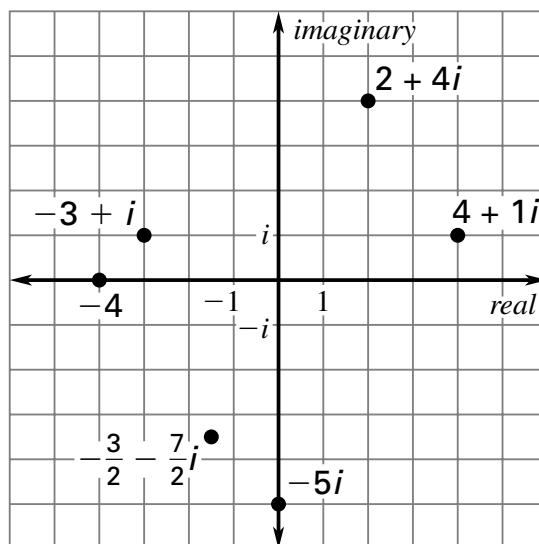
102.



## Quiz 2

2.  $-4 + 10i$       4.  $\frac{1 - 8i}{13}$

6.–10.



6. 5

8. 5

10.  $\frac{\sqrt{58}}{2}$

12.  $1 \pm 4i$

14.  $-2 \pm \frac{\sqrt{5}}{5}$

16.  $y = (x - 9)^2 - 31$

18.  $-1 \pm \sqrt{11}$

20.  $\frac{3 \pm i\sqrt{7}}{2}$

22. about 1 sec