

1. a)  $(x-5)(x+3)=0$       b)  $(2x+3)(x-1)=0$   
 $x=5, x=-3$        $x=1, x=\frac{-3}{2}$

2. a)  $(x+5)^2 = 39$       b)  $\left(x+\frac{3}{4}\right)^2 = \frac{25}{16}$   
 $x = -5 \pm \sqrt{39}$        $x = \frac{1}{2}, -2$

3. a)  $x = \frac{-2 \pm \sqrt{(2)^2 - 4(2)(1)}}{(2)(2)}$       b)  $x = \frac{-6 \pm \sqrt{(6)^2 - 4(2)(3)}}{(2)(2)}$   
 $= \frac{-1 \pm i}{2}$        $= \frac{-3 \pm \sqrt{3}}{2}$

4. a)  $x = 9, 3$     b)  $x = 6, -1$     c)  $x = -4, 3$

5.  $D > 0$

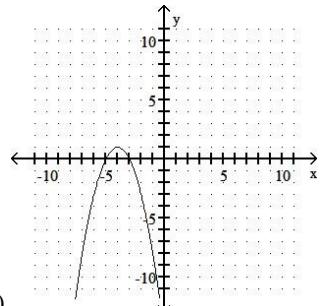
6.  $D = 0$

7.  $D < 0$

8.  $x = 25$

9.  $x = \pm 2, \pm \sqrt{3}$

10.  $x = 12, -4$



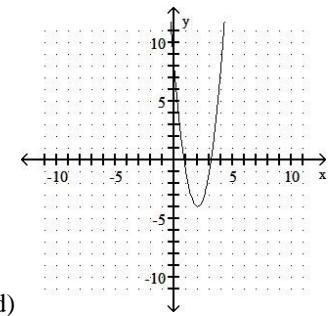
11. a)  $(-4, 1)$     b)  $x = -4$     c)  $x$  intercepts:  $(-5, 0), (-3, 0)$     y intercept:  $(0, -15)$  d)  
e)  $y = -(x+4)^2 + 1$

12.

a)  $(2, -4)$

b)  $x = 2$

c)  $x$  intercepts:  $\left(\frac{6+2\sqrt{3}}{3}, 0\right), \left(\frac{6-2\sqrt{3}}{3}, 0\right)$   $y$  intercept:  $(0, 8)$



13. a)  $\left[-4, \frac{5}{2}\right]$

b)  $(-4, 2) \cup (4, \infty)$

c)  $(1, 5]$

14. a)  $-3x^2 - 2x + 2$

b)  $-13$

c)  $\frac{5}{9}$

d)  $12x^3 - 17x^2 + 10x - 3$