

## Quadratics Review - SOLUTIONS

1. quadratic function  
quadratic term:  $-6x^2$   
linear term:  $-17x$   
constant term:  $-12$
2.  $(3, 1)$ ,  $x = 3$ ;  
 $P'(4, 0)$ ,  $Q'(1, -3)$
3.  $y = -2x^2 + 6x - 2$
4. 2,000 units; \$1500
5. vertex:  $(3, 2)$ ;  
 $y$ -intercept:  $-25$
6.  $x = -8, x = -3$
7.  $x = 10, x = 5$
8.  $x = -\frac{5}{3}, x = -2$
9.  $x = -\frac{3}{2}, x = 6$
10.  $x = \pm 2$
11.  $x = \pm\sqrt{6}$
12. a) 5.6 seconds;  
b) 358 feet
13.  $6i\sqrt{6}$
14.  $5 + 6i$
15.  $-1 - 5i\sqrt{2}$
16.  $4\sqrt{2}$
17.  $2 - i$
18.  $6 + 11i$
19. 4
20.  $33 + 13i$
21.  $x = \pm 2i$
22. 144
23.  $-7 \pm \sqrt{7}$
24.  $-1 \pm i\sqrt{10}$
25.  $x = 0, x = -18$
26.  $x = -4, x = -1$
27.  $x = \frac{-7 \pm \sqrt{85}}{2}$
28.  $x \leq -4$  and  $x \geq -1$
29.  $-1 < x < \frac{5}{3}$
30. a)  $x \geq \frac{3}{4}$  and  $x \leq 1$  (so, between  $3/4$  sec and 1 sec)  
b) 1/4 of a second
31. length = 9 feet; width =  $1\frac{1}{3}$  feet
32.  $y = (x + 3)^2 - 21$
33.  $y = (x - 4)^2 + 27$