Book Chapter 3 Test **Pg 151 #1-49 odd**

1. $x = -1 \pm i\sqrt{2}$; *Sample answer:* completing the square because $a = 1$ and b is an even number

2. $x = 3 \pm \sqrt{2}$; *Sample answer:* completing the square because $a = 1$ and b is an even number

3. $x = \pm 6$; *Sample answer:* square roots because the equation can be written in the form $u^2 = d$

4. $x = \pm 2$; *Sample answer:* graphing because you can rewrite it as a system of equations

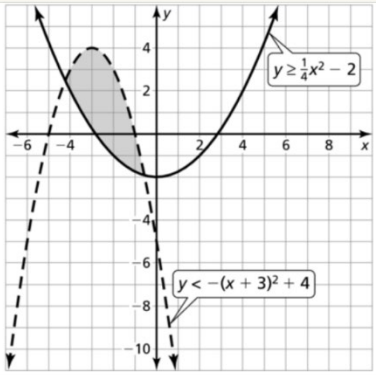
5. Because the graph has only one x-intercept, the equation has exactly one real solution; The discriminant is 0.

6. Because the graph has no x-intercept, the equation has two imaginary solutions; The discriminant is -32.

7. Because the graph has two x-intercepts, the equation has two real solutions; The discriminant is 6.25.

8. $(6, -6)$ and $(8, -2)$

9.



10. $(-6, -2)$ and $(2, 6)$

11. $36 - 2i$

12. The width is about 27.9 inches and the height is about 15.7 inches; Solving $32^2 = (9x)^2 + (16x)^2$ for x gives $x \approx 1.743$.

13. about 55 ft to about 580 ft; Graph $y = -0.0063x^2 + 4x$ and $y = 200$ and determine the points of intersection. The graph is above 200 feet between these points.

14. 4.25 ft; about 35.6 ft; The y-coordinate of the vertex is 4.25 and the x-intercept of the graph is about 35.6.