Math 150 Week in Review 2 Answer Key

1. $h = \dfrac{S - 2lw}{2(w + l)}$
2. (a) $x = -3 \pm \frac{\sqrt{35}}{2}$ OR $x = \frac{-6 \pm \sqrt{35}}{2}$
   (b) $x = 8$
   (c) $x = 2, 3$
   (d) $x = -1 \pm \sqrt{6}$
   (e) $x = 81$
3. (a) No real solutions
   (b) 2 real solutions
4. 10 hours
5. 4 ounces
6. 12×8 (Length is 12 ft. Width is 8 ft.)
7. 6 mph
8. (a) $(-\infty, -\frac{17}{7}) \cup (-\frac{5}{7}, \infty)$
   (b) $[-\frac{6}{5}, 2]$
   (c) $(-\infty, \frac{3}{7}) \cup (2, \infty)$
   (d) $(-\infty, -2) \cup (\frac{1}{2}, 1] \cup [3, \infty)$
9. See full solutions from live review.
10. $d(A, B) = 7\sqrt{2}$
    $d(B, C) = 4\sqrt{2}$
    $d(A, C) = \sqrt{130}$
    Triangle ABC is a right triangle since $d(A, B)^2 + d(B, C)^2 = d(A, C)^2$.
    Area of triangle is 28.
11. (a) x-intercept: $(2, 0)$
    y-intercept: $(0, 8)$
    Does not have any type of symmetry.
    (b) x-intercept: None
    y-intercept: $(0, 4)$
    Symmetric with respect to the y-axis.
    (c) x-intercept: $(0, 0)$
    y-intercepts: $(0, 0), (0, 2), (0, -2)$
    Symmetric with respect to the origin.
12. (a) $(x - 5)^2 + (y + 6)^2 = 144$
    (b) $(x - 6)^2 + (y - 2)^2 = 17$
13. Center: $(\dfrac{3}{2}, -\dfrac{5}{4}), r = \dfrac{\sqrt{69}}{4}$
14. (a) $x = -1.7542, -0.3424, 3.8362$
    (b) $[-6.4033, 0] \cup [6.4033, \infty)$