Precalculus – 1.2 Odd Answers Jessica's answers not checked against new assignment

1. a) 3
   b) 1
   c) 0
   d) negative
   e) positive
   f) 0, 4 and 6
   g) $(0,4)$
   h) $[-4,0)\cup(4,6)$
   i) $[-4,6]$
   j) $[-2,3]$
   k) 0, 4, and 6
   l) 0
   m) 3 times
   n) 1 time
   o) $x=5$
   p) $x=2$

3. a) function
   b) D: $(0,\infty)$ R: $(-\infty,\infty)$
   c) no symmetry
   d) neither

5. a) function
   b) D: $(-\infty,\infty)$ R: $(-\infty,\infty)$
   c) origin
   d) odd

7. a) function
   b) D: $[-1,\infty)$ R: $(-\infty,0]$
   c) no symmetry
   d) neither

9. a) no
   b) -9; $(-2,-9)$
   c) -3 or $-5/2$; $(-3,-10)$ and $(-5/2,-10)$
   d) $(-\infty,\infty)$
   e) -5 and $-1/2$
   f) 5

11. a) $h(8)=10.408$ ft., $h(12)=9.918$ ft.

b) No. The ball is already below the hoop when it is 12 feet in front of the foul line. It is way below the hoop 15 feet in front of the foul line: $h(15) = 8.372$ ft. It must be shot at 30 ft/sec to go through the hoop.

13. a) $(-8,-2) \cup (0,2) \cup (5,\infty)$

   b) $(-\infty,-8) \cup (-2,0) \cup (2,5)$

   c) At $x = -8$, value $= -4$

   d) no absolute maximum

   e) local minima at $x = -8$, 0, and 5; local minimum values: -4, 0, and 0.

   f) local maxima at $x = -2$ and 2; local maximum values: 6 and 10.

15. a) $f(-x) = -\sqrt[5]{x} + x^2$

   b) $-f(x) = -\sqrt[5]{x} - x^2$

   c) Neither. $f(-x) \neq f(x)$ or $-f(x)$.

17. a) $f(-x) = -x + |x|$

   b) $-f(x) = -x - |x|$

   c) Neither. $f(-x) \neq f(x)$ or $-f(x)$.

19. a) $f(-x) = \dfrac{3}{-5x^2}$

   b) $-f(x) = \dfrac{3}{5x^2}$

   c) Even. $f(-x) = f(x)$.

21. Increasing $(1,\infty)$
   Decreasing $(-\infty,-1)$
   Constant $(-1,1)$

23. 3.75 at x = .5; no maximum