C2L2 Answers

10. a. f(0) = 0
f(6) = 0

b. f(-2) = 1
f(2) = -2

c. negative

d. positive

e. x = 0, 4, 6

f. (0, 4)

g. D: [-4, 6]

h. R: [-2, 3]

i. x-int: (0, 0)(4, 0)(6, 0)

j. y-int: (0, 0)

k. twice

l. once

m. x = 5

n. x = 2

11. no

12. yes

a. D: $(-\infty, \infty)$
R: $[0, \infty)$

b. y-int: (0, 1)

c. none

14. yes

a. D: $[-\pi, \pi]$

R: [-1, 1]

b. x-int: $(-\pi, 0)(0, 0)(\pi, 0)$

y-int: (0, 0)

c. origin

16. no

18. yes

a. D: [0, 4)

R: [0, 3)

b. x-int: (0, 0)

y-int: (0, 0)

c. none

20. yes

a. D: $[-3, \infty)$

R: $[0, \infty)$

b. x-int: (-3, 0)(2, 0)

y-int: (0, 2)

c. none

22. yes

a. D: $(-\infty, \infty)$

R: $(-\infty, 5]$

b. x-int: (-1, 0)(2, 0)

y-int: (0, 4)

c. none

24. a. no

b. f(-2) = -22, (-2, -22)

c. $\left(\frac{-1}{3}, -2\right)(2, -2)$

d. D: $(-\infty, \infty)$

e. $(0, 0)\left(\frac{5}{3}, 0\right)$

f. (0, 0)

26. a. yes **b. f(0) = $\frac{1}{2}$, $\left(0, \frac{1}{2}\right)$**

c. $\left(\frac{1}{2}, \frac{1}{2}\right)$ $\left(0, \frac{1}{2}\right)$ **d. $(-\infty, -4)(-4, \infty)$**

e. x-int: none **f. y-int: $\left(0, \frac{1}{2}\right)$**

30. a. V = 30 ft/sec **b. $h(x) = \frac{-136x^2}{900} + 2.7x + 3.5$**

c. h(9) ≈ 15.56
The ball will travel 15.56 feet above the floor when it has traveled 9 feet in front of the foul line.

34. a. $h = 14110$ ft ≈ 2.67 mi
$W(2.67) \approx 119.84$ lbs

b. Graph on Graphing Calculator

c.

h	w(h)
0	120
0.5	119.97
1.0	119.94
1.5	119.91
2.0	119.88
2.5	119.85
3.0	119.82
3.5	119.79
4.0	119.76
4.5	119.73
5.0	119.70

d. Amy will weigh 119.95 pounds at 0.83 miles or 4401 feet.

e. This is a reasonable answer.

35. **a.** $(f + g)(2) = 3$ **b.** $(f + g)(4) = -2$

c. $(f - g)(6) = -1$ **d.** $(g - f)(6) = 1$

e. $(f \cdot g)(2) = 2$ **f.** $\left(\frac{f}{g}\right)(4) = \frac{-1}{3}$