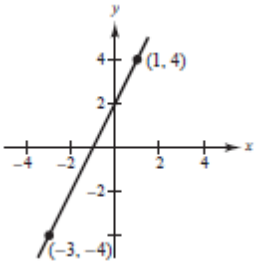
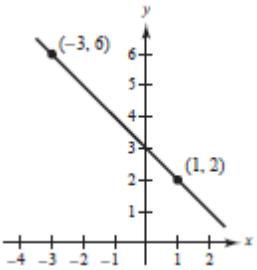
Even Answers: Chapter 1 (2nd half of textbook)

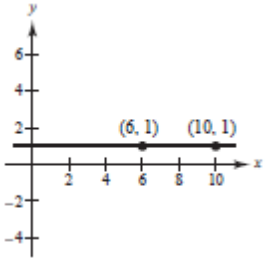
Section 1.3



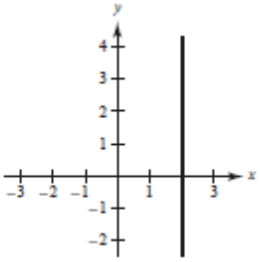
36) $y = 2x + 2$ or $2x - y + 2 = 0$



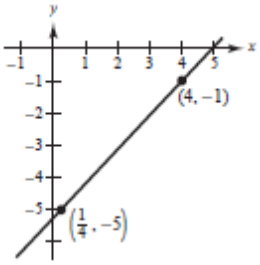
38) $y = -x + 3$ or $x + y - 3 = 0$



40) $y = 1$ or $y - 1 = 0$

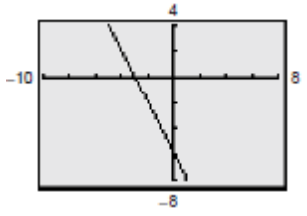


42) $x = 2$



46) $y = \frac{16}{15}x - \frac{79}{15}$ or $16x - 15x - 79 = 0$

54) $y = -2x - 6$ or $2x + y + 6 = 0$



80) a) $S = 1700t + 22900$ b) \$36,500

86) $V = -30000t + 825000,\ 0 \le t \le 25$

88) 3014 students

90) a) $C(t) = 14.75t + 26500$ b) $R(t) = 25t$
c) $P(t) = 10.25t - 26500$ d) approximately 2585.4 hours

Section 1.4

22) *a*) $f\left(\frac{1}{2}\right) = \frac{5}{4}$ *b*) $f(-1) = 5$
c) $f(c+2) = c^2 + 2c + 2$ *d*) $f(x + \Delta x) = x^2 + 2x(\Delta x) - 2x + (\Delta x)^2 - 2(\Delta x) + 2$

26) $3 + \Delta x$

36) *d*) $-2x - 1$ *e*) $-2x + 7$

40) *d*) $f(g(x)) = \frac{x^3}{x^3 + 1}$ *e*) $g(f(x)) = \frac{x^3}{(x+1)^3}$

Section 1.5

4)

x	1.9	1.99	1.999	2	2.001	2.01	2.1
$f(x)$	72.39	79.20	79.92	undefined	80.08	80.80	88.41

$$\lim_{x \to 2}\left(\frac{x^5 - 32}{x - 1}\right) = 80$$

12) a) -2 b) -5

22) a) 0 b) 2 c) does not exist

42) -5

46) $\frac{3}{2}$

54) 4

58) $2t - 4$