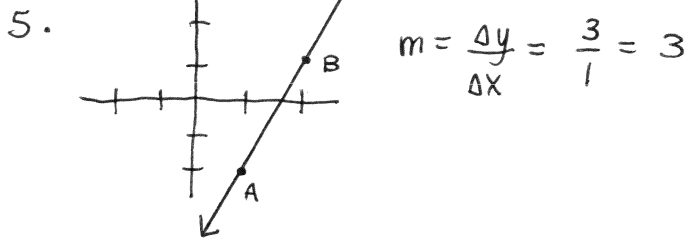


Section 1.1: 1-41 e.o.o., 39, 43, 45, 53, 55, 57

1.  $\Delta x = -2, \Delta y = -3$



9.  $x = 3, y = 2$

13.  $y - 1 = 1(x - 1)$

17.  $y = 3x - 2$

21.  $m = \frac{\Delta y}{\Delta x} = \frac{3}{2}$

$y = \frac{3}{2}x \rightarrow \frac{3}{2}x - y = 0 \rightarrow 3x - 2y = 0$

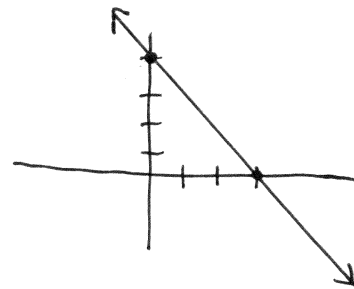
25.  $m = \frac{\Delta y}{\Delta x} = \frac{25}{10} = \frac{5}{2}$

$y = \frac{5}{2}x$

29.  $\frac{1}{3}x + \frac{1}{4}y = 1$

$\frac{1}{4}y = -\frac{1}{3}x + 1$

$y = -\frac{4}{3}x + 4 \rightarrow \text{slope} = -\frac{4}{3}, y\text{-int} = 4$



33.  $L: x = 5$  (vertical)

a) Parallel: also vertical  $\rightarrow x = -2$

b) Perpendicular: horizontal  $\rightarrow y = 4$

37.  $\frac{y-3}{4-2} = \frac{-2}{3}$

$\frac{y-3}{6} = \frac{-4}{6}$

$y - 3 = -4$

$y = -1$

$$41. x + y = 1 \rightarrow y = -x + 1 \rightarrow m = -1$$

$$2x + ky = 3$$

$$ky = -2x + 3$$

$$y = \frac{-2}{k}x + \frac{3}{k}$$

$$a) \text{ Parallel: } \frac{-2}{k} = -1 \rightarrow -2 = -k \rightarrow k = 2$$

$$b) \text{ Perpendicular: } \frac{-2}{k} = 1 \rightarrow k = -2$$

$$39. (3, 4) \text{ and } (-2, -1)$$

$$m = \frac{\Delta y}{\Delta x} = \frac{-5}{-5} = 1$$

$$y - 4 = 1(x - 3)$$

$$y = x - 3 + 4 \rightarrow y = x + 1$$

$$43. p = kd + 1$$

$$10.94 = k(100) + 1$$

$$9.94 = 100k$$

$$k = 0.0994$$

$$p = 0.0994d + 1$$

$$p = 0.0994(50) + 1 = 5.97 \text{ atmospheres}$$

$$45. a) y = 2216.2x - 4,387,470.6$$

b)  $m = 2216.2$  is rate of change of wages in dollars per year

c) On calculator

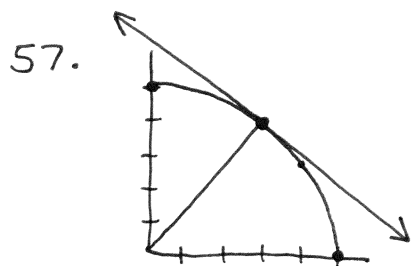
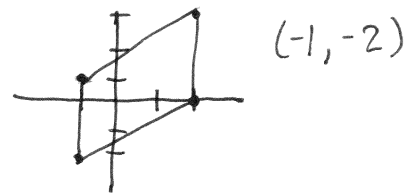
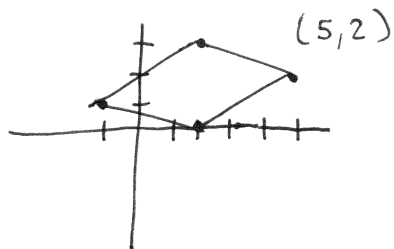
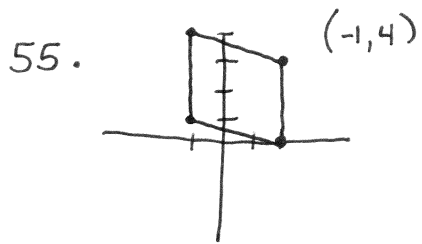
d) \$62,659

$$53. a) y = 5980x - 11,809,820$$

b) The rate of change of median price in \$/yr

$$c) y = 21,650x - 43,105,030$$

d) West bc greater slope



Radius:  $m = 4/3$

⊥ Tangent:  $m = -3/4$  through  $(3, 4)$

$$y - 4 = -\frac{3}{4}(x - 3)$$

