

Sect 1.1

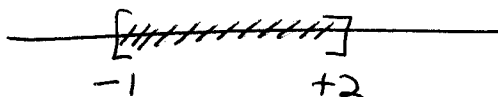
#1

$$\begin{array}{r} 2m+9 = 5m-6 \\ -2m \quad -2m \\ \hline 9 = 3m-6 \\ +6 \quad +6 \\ \hline 15 = 3m \end{array} \Rightarrow$$

$$\frac{15}{3} = \frac{3m}{3} \Rightarrow \boxed{m=5}$$

#9

$$\begin{array}{r} 2 \leq x+3 \leq 5 \\ -3 \quad -3 \quad -3 \\ \hline -1 \leq x \leq 2 \end{array}$$



#25

$$\begin{aligned} 0.1(x-7) + 0.05x &= 0.8 \\ 0.1x - 0.7 + 0.05x &= 0.8 \\ 0.15x - 0.7 &= 0.8 \\ 0.15x &= 1.5 \end{aligned} \Rightarrow$$

$$\boxed{x = \frac{1.5}{0.15} = 10}$$

#35

$$F = \frac{9}{5}C + 32$$

$$\frac{9}{5}C = F - 32 \Rightarrow$$

$$\boxed{C = \frac{5}{9}(F - 32)}$$

#55

$$\$34,000 = 0.052x + 0.077(500,000 - x)$$

$$34,000 = 0.052x + 38,500 - 0.077x$$

$$-4,500 = -0.025x \Rightarrow$$

$$x = \frac{-4500}{-0.025} = 180,000$$

$$\boxed{\$180,000 @ 5.2\% + \$320,000 @ 7.7\%}$$

#65

$$C = 55,000 + 1.60x$$

$$R = 11x$$

$$C = R$$

$$55,000 + 1.60x = 11x$$

$$55,000 = 9.4x$$

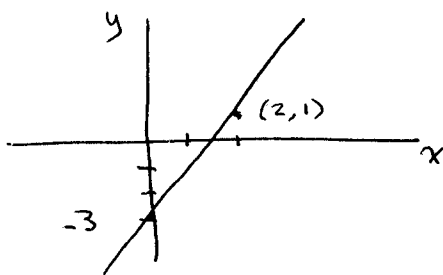
$$x = 5851.06... \approx$$

$$\boxed{5,851 \text{ books}}$$

Sect 1.2

#5 $y = 2x - 3$

x	y
0	-3
1	-1
2	+1

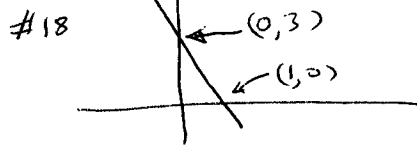


Sect 1.2

#15 slope = $\frac{4}{3}$
y-intercept = -4

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

Math 107 - Ch 1
R. B. Goldstein (2)
Barnett (2nd Ed)



slope = $\frac{0-3}{1-0} = -3$

$$y = -3x + 3$$

#29 $3x + 5y = 15$

$$\frac{5y}{5} = \frac{-3x + 15}{5}$$

$$y = -\frac{3}{5}x + 3$$

$$\text{slope} = -\frac{3}{5}$$

#49 $(-2, -1) (2, -6)$

$$m = \frac{-6 - (-1)}{2 - (-2)} = \frac{-5}{4}$$

$$y = -\frac{5}{4}x + b$$

$$b = -3.5 = -\frac{7}{2} = -\frac{14}{4}$$

$$-1 = -\frac{5}{4}(-2) + b$$

$$y = -\frac{5}{4}x - \frac{14}{4}$$

$$4y = -5x - 14$$

or

$$5x + 4y = -14 \text{ or similar}$$

#59

$$C = 124 + 0.12x = 250 \Rightarrow 0.12x = 126$$

$$x = 1050$$

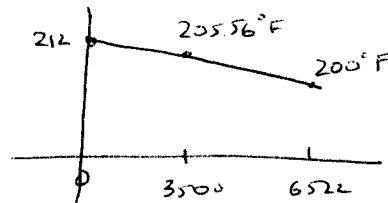
#67 $0 \quad 212^\circ\text{F}$
 $10000 \quad 193.6^\circ\text{F}$

$$m = \frac{193.6 - 212}{10000 - 0} = \frac{-18.4}{10000} = -1.84 \times 10^{-3}$$

(A) $T = (-1.84 \times 10^{-3})x + 212$

(B) $T = -1.84 \times 10^{-3} \times 3500 + 212 = -6.44 + 212 = 205.56^\circ\text{F}$

(C) $(-1.84 \times 10^{-3})x + 212 = 200 \Rightarrow x = \frac{-12}{-1.84 \times 10^{-3}} = 6522 \text{ ft}$



Sect 1.3

#1 (A) $w = 49 + 1.7h$

(B) For each inch above 5ft one adds 1.7 kg

(C) $w = 49 + 1.7(4) = 55.8 \text{ kg}$

(D) $49 + 1.7h = 60 \Rightarrow h = 6.5$

or $5' 6.5''$

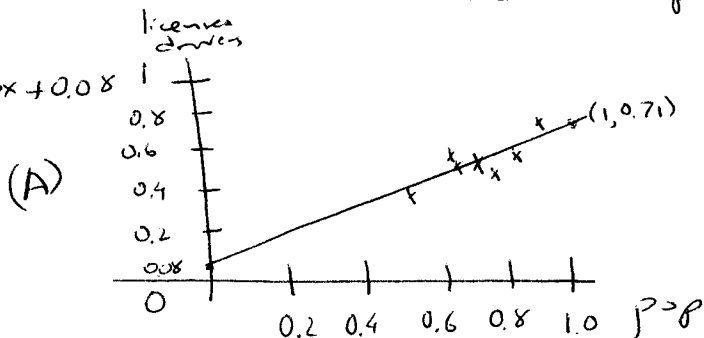
#7 $0^\circ\text{C} \Rightarrow 331 \text{ m/sec}$
 $20^\circ\text{C} \Rightarrow 343 \text{ m/sec}$

$$m = \frac{343 - 331}{20 - 0} = \frac{12}{20} = 0.6$$

$$S = 331 + 0.6t$$

for each 1°C the speed of sound increases by 0.6 m/sec

#15 $y = 0.63x + 0.08$



(B) $0.63(1.4) + 0.08 = 0.962$

$$\approx 962,000$$

(C) $0.63x + 0.08 = 0.74$

$$0.63x = 0.66$$

$$x = 0.66 / 0.63 = 1.048$$

$$\approx 1,048,000$$