Chapter 1 Solutions

Section 1.1

Question 1 1) a. $P = -\frac{1}{2}Q + 3$, b. $Q = -2P + 6$

Question 2 1) a. linear function, b. not linear function, c. not linear function

2) $Q = -\frac{2}{3}P + 120$, b. $m = -\frac{2}{3} \approx -0.66$.

Question 3 1) a. 24, b. -4, c. $3z - 6$, d. 12

2) a. 345, b. 50

Section 1.2

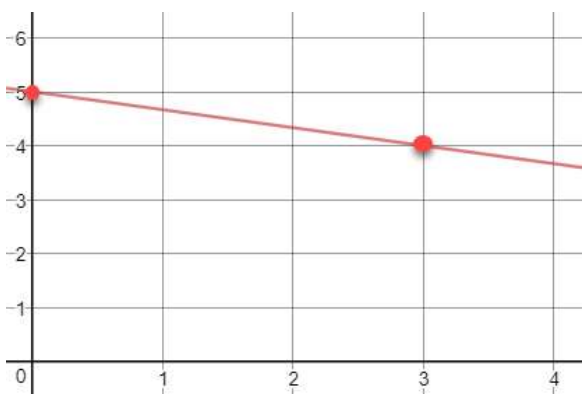
Question 1 1) a. $m = \frac{1}{3}$, $b = -4$ b. $m = -\frac{1}{2}$, $b = 3$ c. $m = -\frac{1}{4}$, $b = 2$

2) $y = 2x - 2$

3) $y = 3$

4) a. $-\frac{3}{2}$, b. Lowering the price by approximately 1.5 dollars increases demand by 1 unit, c. $b = 180$.

Question 2 1)



Question 3 1) $y = 4x - 2$

2) a. $y = 20.2x + 100$, b. 443.4, 0.8% higher than actual CPI of 440, c. Increasing at a rate of 20.2 per year.

Question 4 1) a. $R(x) = 15x$, b. $R(1200) - R(1000) = 3000$

2) $C(x) = 480x + 2200$

3) $C(x) = 520x + 42000$

Question 5 1) a. 4000 boxes at a price per unit of $4, b. shortage

Section 1.3

Question 1 1) $y = 376.7x + 3669.6$

Question 2 1) a. $10450.20, b. 2030, c. Each year the average college cost increases by $376.70.

Question 3 1) The correlation coefficient is 0.9519 and indicates a strong linear correlation.