$$n = 7$$

Date:

$$\bar{X} = \frac{\Sigma \, Weight}{7} = 4.571$$

$$\bar{Y} = \frac{\Sigma \, Price}{7} = 47.143$$

$$\overline{X^2} = \frac{\Sigma (weight)^2}{7} = 23.428$$

$$\overline{XY} = \frac{\Sigma (XY)}{7} = \frac{1555}{7} = 222.193$$

$$\therefore \, Slope \; M = \frac{\bar{X} \cdot \bar{Y} - \overline{X \cdot Y}}{(\bar{X})^2 - \overline{X^2}}$$

$$= \frac{(4.571 \times 47.143) - 222.143}{(4.571)^2 - 23.428}$$

$$= \frac{-6.652}{-2.534} = 2.625$$

$$Y\text{-intercept}, \; C = \bar{Y} - M\bar{X}$$

$$= 47.143 - 2.625 \times 4.571$$

$$= 35.144$$

Prediction for Weight = 6

$$Y = MX + C$$

$$= 2.625 \times 6 + 35.144$$

$$= 50.894$$

Residuals

weight, X	Price, Y	Y predict	Residual Y - Ypred
2	35	40.394	5.394
4	60	45.644	14.356
5	20	48.269	28.269
3	50	43.019	6.981
6	50	50.894	0.894
5	55	48.269	6.731
7	60	53.519	6.481
			$\Sigma Y - Ypred = 69.106$

Mean Absolute Error

$$MAE = \frac{1}{n} \sum_{i=1}^{n} | Y_i - \hat{Y_i} |$$

$$= \frac{1}{7} \times 67.106$$

$$= 9.872$$

Mean Square Error

$$MSE = \frac{1}{n} \sum (Y_i - \hat{Y_i})^2$$

$$= \frac{1}{n} (29.095 + 206.094$$

$$+ 799.136 + 48.739 + 0.799$$

$$+ 45.306 + 42.003) +$$

$$= \frac{1171.167}{7} = 167.309$$