

1.

$$\begin{aligned}\text{mean} = \mu &= \frac{\text{Total}}{N} = \frac{\Sigma x}{N} \\ &= \frac{4+7+8+9}{4} = \frac{28}{4} = 7\end{aligned}$$

Standard deviation:

- Get differences from mean
- Square them
- Get the average of the squares
- Square root your answer

$$\begin{aligned}\sigma &= \sqrt{\frac{\Sigma(x - \mu)^2}{N}} \\ &= \sqrt{\frac{(4-7)^2 + (7-7)^2 + (8-7)^2 + (9-7)^2}{4}} \\ &= \sqrt{\frac{(-3)^2 + (0)^2 + (1)^2 + (2)^2}{4}} \\ &= \sqrt{\frac{9+0+1+4}{4}} = \sqrt{\frac{14}{4}} = \sqrt{3.5} = 1.87\end{aligned}$$