

11. In a normally distributed set of data points, the mean is 10 and the standard deviation $\sigma = 0.75$. If a single measurement is made, what is the probability it would be between 9 and 10.8?

Solution :

II. A large set of data has a mean value of 8 and a standard deviation of 0.9 units. Find the range of values in which 50% of the data should fall.

III. Pressure measurements are made continuously in a high pressure pipe and the mean value was found to be 200 psi with a standard deviation of 12 psi. What is the probability the pressure will exceed 230 psi?

Solution :

IV you need to buy a pipe with a diameter of $100 \text{ mm} \pm 2 \text{ mm}$. Two vendors come forward with the following:

Vendor 1: $\mu_1 = 99$ $\sigma_1 = 0.8$

Vendor 2: $\mu_2 = 102$ $\sigma_2 = 0.5$

Which one is a better fit? Show your work.