Answer on Question #43529-Math-Statistics and Probability

Find the density function of a normally distributed random variable X, if E(X) = 7.8 and σ(X) = 4.1

Solution

The density function of a normally distributed random variable X is

$$f(x) = \frac{1}{\sigma\sqrt{2\pi}} e^{-\frac{(x-\mu)^2}{2\sigma^2}} = \frac{1}{4.1\sqrt{2\pi}} e^{-\frac{(x-7.8)^2}{2\cdot 4.1^2}} = 0.0973 \cdot e^{-\frac{(x-7.8)^2}{33.62}}.$$