Answer on Question #43225-Math-Statistics and Probability

If the cumulative distribution function of X is given by the function below, then what is P (X < 0.80).

f(x) = 0 , if x ≤ 0

f(x) = x^2, if 0 < x ≤ 1

f(x) = 1 , if x > 1

Solution

The cumulative distribution function (CDF) of a random variable X is denoted by f(x), and is defined as $f(x) = Pr(X \leq x)$. So

$$\mathrm{P}\ (\mathrm{X} < 0.80) = f(0.80) = 0.80^2 = 0.64.$$

Answer: $\mathbf{0.64}$.