## Example 1

A random variable is said to be *uniformly* distributed between $a$ and $b$ if it is equally likely to occur anywhere between $a$ and $b$. Thus the height of the probability curve of the uniform distribution is a constant between $a$ and $b$. Elsewhere the probability density function is zero.
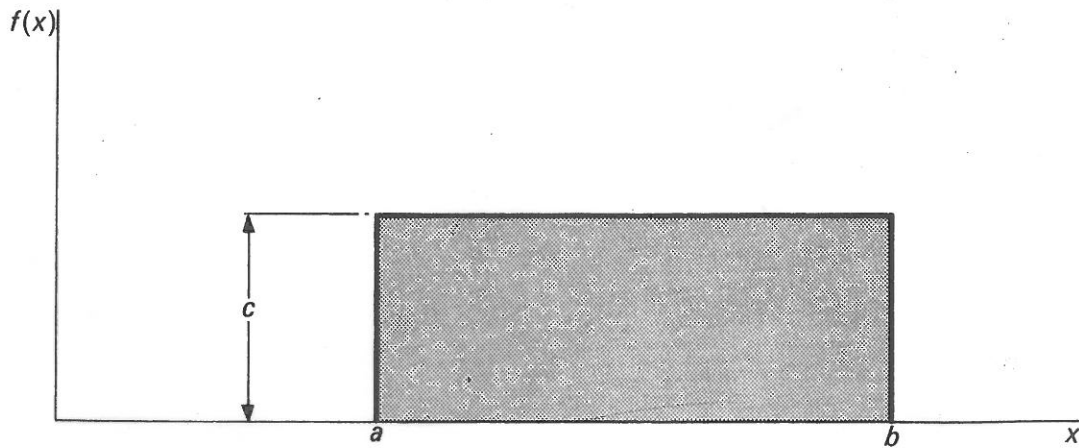


Figure 20    P.D.F. of uniform distribution

## Example 3

Find the mean and variance of the uniform distribution which has p.d.f.

$$f(x) = \begin{cases} \frac{1}{2} & -1 < x < 1, \\ 0 & \text{elsewhere.} \end{cases}$$

## Example 5

The individual weights of a batch of screws are normally distributed with mean $\mu = 2.10$ grams and standard deviation $\sigma = 0.15$ grams. What proportion of the screws weigh more than 2.55 grams?