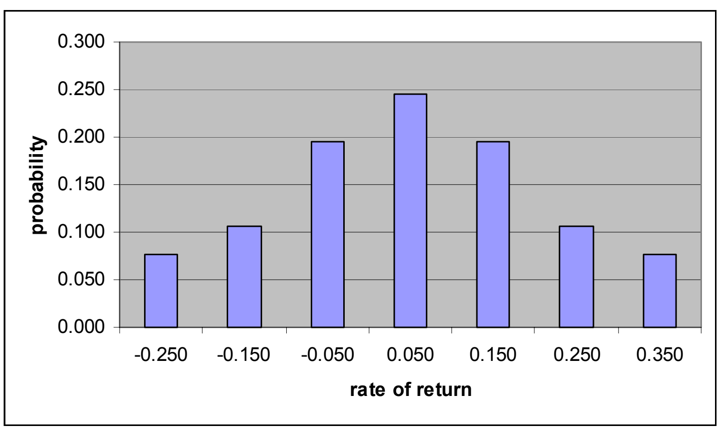
B.18 (a) In general $P(x_1 < X \leq x_2) = F_X(x_2) - F_X(x_1)$.

$$P(0 < X \leq 0.1) = \frac{1}{\mathrm{e}^{-10(0.1-0.05)} + 1} - \frac{1}{\mathrm{e}^{-10(-0.05)} + 1} = 0.245$$

(b) We have to perform a similar calculation another six time, paying attention to the outside brackets:

$$\begin{aligned}
P(X &\leq -0.2) = \frac{1}{\mathrm{e}^{-10(-0.25)} + 1} = 0.076, \\
P(-0.2 &< X \leq -0.1) = \frac{1}{\mathrm{e}^{-10(-0.15)} + 1} - \frac{1}{\mathrm{e}^{-10(-0.25)} + 1} = 0.107, \\
P(-0.1 &< X \leq 0) = \frac{1}{\mathrm{e}^{-10(-0.05)} + 1} - \frac{1}{\mathrm{e}^{-10(-0.15)} + 1} = 0.195, \\
P(0 &< X \leq 0.1) = \frac{1}{\mathrm{e}^{-10(0.05)} + 1} - \frac{1}{\mathrm{e}^{-10(-0.05)} + 1} = 0.245, \\
P(0.1 &< X \leq 0.2) = \frac{1}{\mathrm{e}^{-10(0.15)} + 1} - \frac{1}{\mathrm{e}^{-10(0.05)} + 1} = 0.195, \\
P(0.2 &< X \leq 0.3) = \frac{1}{\mathrm{e}^{-10(0.25)} + 1} - \frac{1}{\mathrm{e}^{-10(0.15)} + 1} = 0.107, \\
P(0.3 &< X) = 1 - \frac{1}{\mathrm{e}^{-10(0.25)} + 1} = 0.076.
\end{aligned}$$

The results are summarized in the histogram below:



Histogram obtained by discretization of a continuous distribution.