

4 Further Probability & Statistics – Part 1 —Answers

Answers

4.1 The probability that X takes a value in that range.

4.2 1.

4.3 It is the cumulative distribution function; it rises to 1.

4.4 $\frac{1}{4}m^2 = 0.5 \Rightarrow m^2 = 2 \Rightarrow m = \sqrt{2} = 1.41$.

4.5 $F(m) = 0.5$.

4.6 The total area is 1: $\int_0^3 kx \, dx = k \left[\frac{x^2}{2} \right]_0^3 = \frac{9}{2}k = 1$, so $k = \frac{2}{9}$.