Exercise 15C

1 X is binomially distributed with 4 trials and a probability of success equal to $\frac{1}{2}$ on each trial.

Without a calculator determine the probability of

a $P(X = 1)$ **b** $P(X < 1)$

c $P(X \leq 1)$ **d** $P(X \geq 1)$

2 If $X \sim B\left(6, \frac{1}{3}\right)$ find to 3 significant figures

a $P(X = 2)$ **b** $P(X < 2)$

c $P(X \leq 2)$ **d** $P(X \geq 2)$

3 If X is binomially distributed with 8 trials and a probability of success equal to $\frac{2}{7}$ at each attempt, what is the probability of

a exactly 5 successes **b** less than 5 successes

c more than 5 successes **d** at least one success?

Exercise 15C Answers

1 a $\frac{1}{4}$ b $\frac{1}{16}$

c $\frac{5}{16}$ d $\frac{15}{16}$

2 a 0.329

b 0.351 $P(X < 2)$

c 0.680

d 0.649

3 a 0.0389

b 0.952

c 0.00870

d 0.932