9 The table shows the probability distribution for the discrete random variable X.

x	1	2	3	4	5
$P(X = x)$	0.1	0.3	q	$2q$	$3q$

You are given that q is a positive constant.

(a) Determine the value of q. [2]

(b) Calculate $P(X \leqslant 4)$. [1]

Two independent values of X are taken.

(c) Determine the probability that the sum of the two values is 3. [2]

Fifty independent values of X are taken.

(d) Find the probability that a value of 2 occurs exactly 17 times. [1]