

**Exercise 15A**

- 3** A fair six-sided dice has a '1' on one face, a '2' on two of its faces and a '3' on the remaining three faces.  
The dice is thrown twice.  $T$  is the random variable 'the total score thrown'. Find
- the probability distribution of  $T$
  - the probability that the total score is more than 4.
- 4** A board game is played by moving a counter  $S$  squares forward at a time, following this rule:  
A fair six-sided dice is thrown once. If the number shown is even,  $S$  is half that number.  
If the number shown is odd,  $S$  is twice the number shown on the dice.
- Write out a table showing the possible values of  $S$  and their probabilities.
  - What is the probability that in a single go in the game the counter moves more than 2 spaces?
- 5** The random variable  $X$  has the probability distribution

$x$	1	2	3	4
$P(X = x)$	$\frac{1}{3}$	$\frac{1}{3}$	$c$	$c$

- Find the value of  $c$ .
- Find  $P(1 < X < 4)$ .

: **EXAM-STYLE QUESTION**

- 6** The probability distribution of a random variable  $Y$  is given by  
 $P(Y = y) = cy^3$  for  $y = 1, 2, 3$   
Given that  $c$  is a constant, find the value of  $c$ .