

1. Two fair 6-sided dice, one blue and one yellow, are thrown. For each die, the faces are labelled 1, 2, 3, 4, 5, 6. The score for each die is the number which lands face up.

(a) List the pairs of scores that give a sum of 4. (3 marks)

(b) The probability distribution for the sum of the scores on the two dice is shown below. (3 marks)

Sum	2	3	4	5	6	7	8	9	10	11	12
Prob	1/36	a	3/36	4/36	b	7/36	5/36	c	3/36	2/36	1/36

Find the value of a, b, and c.

Mark scheme:

(a) (1, 3), (2, 2), (3, 1) (A1)(A1)(A1)

(b) $a = \frac{2}{36}$ (A1)

$b = \frac{5}{36}$ (A1)

$c = \frac{4}{36}$ (A1)