

IB Statistics and Probability Problem 017

Two fair four-sided dice, one red and one green, are rolled. For each die, the faces are labelled 1, 2, 3, 4. The score for each die is the number on the face on which the die lands.

A. List the pairs of scores that give a sum of 6.

The probability distribution for the sum of the scores of the two dice is given below.

Summe	2	3	4	5	6	7	8
Probabilité	p	q	$\frac{3}{16}$	$\frac{4}{16}$	$\frac{3}{16}$	r	$\frac{1}{16}$

B. Find the value of p , of q and of r .

Fred plays a game. He rolls two fair four-sided dice four times. He wins a prize if the sum is 5 for three or more rolls.

C. Find the probability that Fred wins a prize.