



Maths in Action: Solution to Problem 2

Transcript

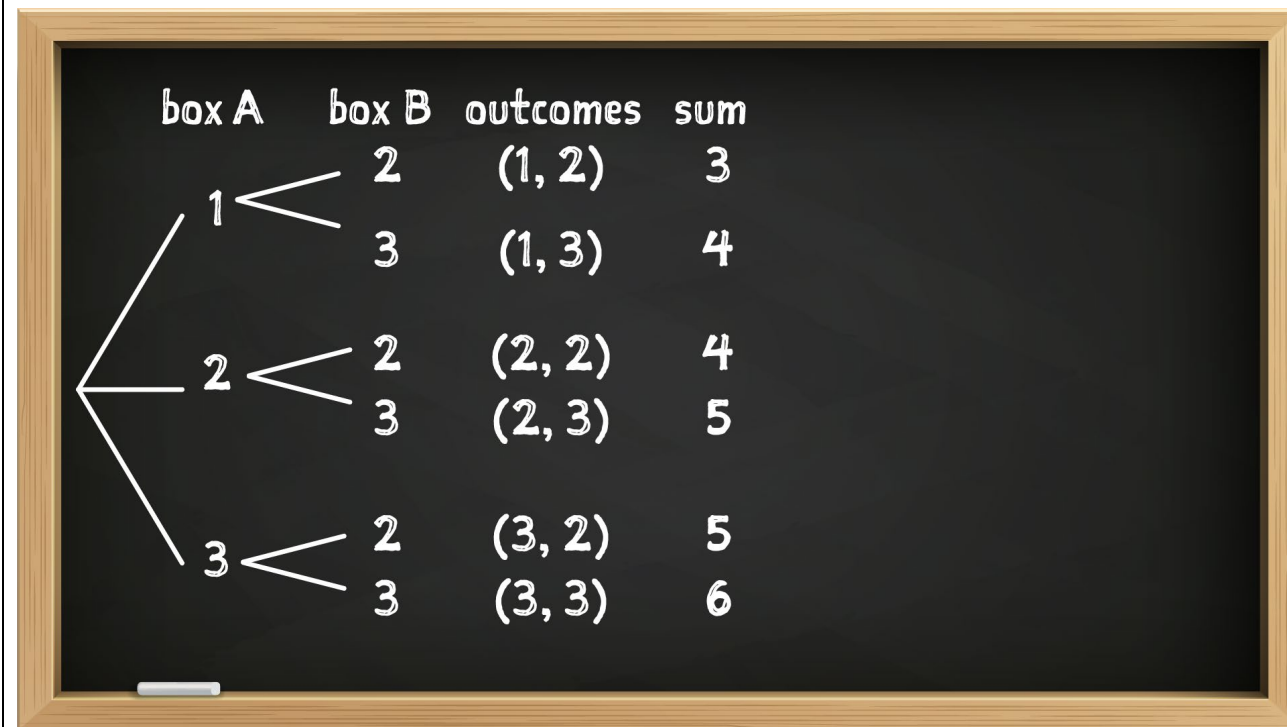
Let's start by drawing the tree diagram.

First, we'll write the possibilities for box A: one, two, or three. Then from each of these we'll write the possibilities for box B: a two or a three each time.

This gives us the following outcomes.

Next, we find the sum of each outcome: three, four, four, five, five and six.

Working





Transcript

So, the probability that the sum of the numbers on the cards will equal four is two in six, or a third. The probability that the sum of the numbers is greater than four is three in six, or half.

Working

box A	box B	outcomes	sum	$P(\text{sum} = 4) = \frac{2}{6}$ $= \frac{1}{3}$
1	2	(1, 2)	3	
	3	(1, 3)	4	
2	2	(2, 2)	4	
	3	(2, 3)	5	
3	2	(3, 2)	5	
	3	(3, 3)	6	



Transcript

The probability that the sum of the numbers is greater than four is three in six, or half.

Working

box A	box B	outcomes	sum	
1	2	(1, 2)	3	$P(\text{sum} = 4) = \frac{2}{6}$
	3	(1, 3)	4	
2	2	(2, 2)	4	$= \boxed{\frac{1}{3}}$
	3	(2, 3)	(5)	
3	2	(3, 2)	(5)	$P(\text{sum} > 4) = \frac{3}{6}$
	3	(3, 3)	(6)	
				$= \boxed{\frac{1}{2}}$