

Question	Scheme	Marks	AOs
3	Overall method	M1	2.1
	$a + b = 2c + 0.5$ oe or $a + b = 2(1 - a - b)$	B1	2.2a
	$a + b + c = 0.75$ oe	B1	1.1b
	$3c = 0.25$ $\left[c = 0.0833... \text{ or } \frac{1}{12} \right]$	M1	1.1b
	$P(\text{scoring } 2,4 \text{ or } 4,2 \text{ or } 3,3) = 2 \times \frac{1}{12} \times 0.15 + 0.1^2$	M1	3.1b
	$= 0.035$ oe	A1cso	1.1b
		(6)	

(6 marks)

Notes			
3	M1:	A fully correct method with all the required steps. For gaining 2 correct equations with at least one correct(allow if unsimplified). Attempting to solve to find a value of c followed by correct method to find the probability	
	B1:	Forming a correct equation from the information given in the question	
	B1:	A correct equation using the sum of the probabilities equals 1	
	M1:	Correct method for solving 2 equations to find c Implied by $c = \frac{1}{12}$	
	M1:	Recognising the ways to get a total of 6. Condone missing arrangements or repeats. Do not ignore extras written unless ignored in the calculation. May be implied by $m \times \frac{1}{12} \times 0.15 + n \times 0.1^2$ where m and n are positive integers	
	A1cso:	Cao 0.035, $\frac{7}{200}$ oe	