Question Number	Scheme	Marks
1.	[Sum of probs = 1 gives] $a+b+c+0.3=1$ (o.e.) [F(1) = 0.63 gives] $0.15 + a + b = 0.63$ or $0.63 + c + 0.15 = 1$ (o.e.) Solving $c = \mathbf{0.22}$ [Use of E(X) = 1 or symmetry gives] $a = c$ $a = \mathbf{0.22}$ Therefore $b = \mathbf{0.26}$	M1 M1 A1 M1 A1 **[5]**
	Notes	
	Each of the 3 Ms can be awarded at any point for either the correct equation seen or clearly implied by its use e.g. choosing their b ($0 < b < 0.7$) so that $a + b + c = 0.7$ (1st M1) 1st M1 for use of sum of probabilities to form an equation in a, b and c. Can allow the use of their value for c in the equation or implied by its use to find b 2nd M1 for equation in a and b from using F(1) = 0.63 e.g. $a + b = 0.48$ or $c + 0.15 = 0.37$ 1st A1 for deducing $c = 0.22$ 3rd M1 for using E(X) = 1 to deduce $a = c$ ft their value of c (provided $0 \leqslant a \leqslant 0.35$) NB E(X) = 1 gives $-a + b + 3c = 0.7$ but only scores M1 when they state $a = c$ or give their value of a ($0 \leqslant a \leqslant 0.35$) = their value of c 2nd A1 for $b = 0.26$ **All 3 correct answers only (no working) scores 5 marks (they may be seen in the table)** If answers seen in the table contradict answers with working in the body of the script the script takes preference.	