

Question	Answer	Marks	Guidance
(a)	$[P(>2) = 1 - P(0,1,2) =]$ $1 - ({}^7C_0 0.18^0 0.82^7 + {}^7C_1 0.18^1 0.82^6 + {}^7C_2 0.18^2 0.82^5)$	<b>M1</b>	One term ${}^7C_x p^x (1-p)^{7-x}$ , $0 < p < 1, 0 < x < 7$
	$= 1 - (0.249285 + 0.383048 + 0.252251)$ $= 1 - 0.88458$	<b>A1</b>	Correct unsimplified expression or better Condone omission of brackets if recovered
	0.115	<b>B1</b>	WWW. $0.115 \leq p < 0.1155$ not from wrong working
		<b>3</b>	
(b)	$[P(\text{at least 1 day of rain}) = 1 - P(0) = 1 - (0.82)^7 =] 0.7507$	<b>B1</b>	AWRT 0.751 seen
	$[P(\text{exactly 2 periods}) =] 0.7507^2 \times (1 - 0.7507) \times 3$	<b>M1</b>	FT <i>their</i> $1 - p^7$ or <i>their</i> 0.7507 if identified, not 0.18, 0.82 Accept $\times^3 C_r$ , $r=1,2$ or $\times^3 P_1$ for $\times 3$ Condone $\times 2$
	0.421	<b>A1</b>	Accept $0.421 \leq p \leq 0.4215$ <b>SC B1</b> if 0/3 scored for final answer only $0.421 \leq p \leq 0.4215$
		<b>3</b>	