Question Number	Scheme	Marks
7 (a)	$\mathrm{P}(C < 570) = 0.5 + \dfrac{570-550}{650-550} \times 0.25$ or $\dfrac{x-100}{150-100} = \dfrac{570-550}{650-550}$	M1
	$= 0.55$	A1
		(2)
(b)	$Q_3 + 1.5 \times (Q_3 - Q_1) = 650 + 1.5 \times 200$	
	$= 950$	B1
		(1)
(c)	Normal distribution is supported as box plot is reasonably **symmetrical** oe	B1
		(1)
(d)	$z = 2$	
	$\mathrm{P}(Z > 2)[= 1 - 0.9772]$	M1
	$= 0.0228$	A1
		(2)
(e)	$1000 = 560 + 2\sigma$ or $1000 > 560 + 2\sigma$	M1
	$\sigma = 220$	A1
		(2)
	Notes	**Total 8**

(a)	**M1**	Correct method $0.5 + p \times 0.25$ where $0 < p < 1$ or attempt to find the number of cabbages weighing less than 570 (implied by $x = 110$)
	A1	0.55 condone awrt 0.55 for 2 out of 2 marks
(b)	**B1**	cao
(c)	**B1**	Supports Normal/Yes (supports assumption) **and** reference to symmetry or no skew eg $Q_3 - Q_2 = Q_2 - Q_1$ oe in words Do not allow mean = median on its own for symmetric
(d)	**M1**	Use of $\mathrm{P}(Z > 2)$ can be implied by sight of awrt 0.977 or sight of awrt 0.0228
	A1	awrt 0.0228 (calculator gives 0.0227501…)
(e)	**M1**	Attempt to use $560 + 2\sigma$ to set up appropriate equation or inequality (allow …) Implied by sight of 220
	A1	allow $\sigma < 220$ or $\sigma \leqslant 220$ condone 219.999… but eg 219 as final answer is A0

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