

Question			Answer	Marks	AO	Guidance
9	(a)		0.886 (3 sf)	<b>B1</b> <b>[1]</b>	<b>1.1</b>	awrt 0.886 (Condone 88.6%)
9	(b)		$\Phi(0.8)$ and $\Phi(0.3)$  $0.84162 = \frac{502 - \mu}{\sigma}$ and $-0.52440 = \frac{499 - \mu}{\sigma}$  $\frac{0.84162}{-0.52440} = \frac{502 - \mu}{499 - \mu}$ oe <b>or</b> $(0.84162 + 0.52440)\sigma = 502 - 499$ oe  $\mu = 500.15$ (2 dp) and $\sigma = 2.20$ (2 dp)	<b>M1*</b>  <b>A1</b>  <b>M1 dep*</b>  <b>A1</b> <b>A1</b> <b>[5]</b>	<b>3.1a</b>  <b>3.4</b>  <b>1.1</b>  <b>1.1</b> <b>1.1</b>	Attempted, values not required and allow truncated or rounded values e.g. 0.84... etc. throughout. May be implied by $\pm 0.84162$ & $\pm 0.52440$ Allow $\Phi(0.8)$ and $\Phi(0.3)$ – or use of these expressions throughout (need not see values for $\Phi$ but if given they must be correct)  One correct equation in one unknown (FT their $\Phi$ values) (may be implied by correct answers).  Correct answers to 2sf (500 and 2.2) or better Correct answers to exactly 2dp, cao SCB1 for one correct answer to 2dp (max 4/5) or if one/both answers are given with no/insufficient working (max 1/5).
9	(c)	(i)	0.5 and 3.5	<b>B1</b> <b>[1]</b>	<b>1.1</b>	Allow 0 to 1, 3 to 4
9	(c)	(ii)	1.5  Inflection points are one sd from mean	<b>B1FT</b> <b>[1]</b>	<b>1.2</b>	$\frac{\text{Their '3.5' - '0.5'}}{2}$ or $ 2 - '3.5' $ or $ 2 - '0.5' $ FT their points of inflection (Note that $\mu \approx 2$ ) Need value and explanation (calculation alone is not sufficient)