Question			Answer	Mark	AO	Guidance
11	**(a)**		0.841	**B1**	**1.2**	Allow $\frac{5}{6}$ or 0.84 (2 sf) (from "rule-of-thumb")
						awrt 0.84
				[1]		
11	**(b)**		$\frac{45-\mu}{\sigma} = \phi^{-1}(0.8)$ $\quad\quad$ $\frac{25-\mu}{\sigma} = -\phi^{-1}(0.7)$	**M1**	**3.1a**	One of these attempted. Or P($Z < \frac{45-\mu}{\sigma}$) = 0.8 seen or this standardised form clearly shown on a diagram
			$\frac{45-\mu}{\sigma} = 0.84162$	**A1**	**1.1**	Not a required answer so allow truncated e.g. 0.841, 0.84…
			$\frac{25-\mu}{\sigma} = -0.52440$	**A1**	**1.1**	Not a required answer so allow truncated e.g. -0.52…
			$\frac{45-\mu}{25-\mu} = -\frac{0.84162}{0.52440}$ $\quad\quad$ $(=-1.60492)$	**M1** **dep**	**2.1**	dep previous M1. Attempt to solve their equations simultaneously, any method (may be implied by correct answers)
			$\mu \in [32.6, 32.8]$ **and** $\sigma \in [14.5, 14.7]$	**A1**	**1.1**	For obtaining both values in the given intervals.
			$\mu = 32.7$ (3 sf) **and** $\sigma = 14.6$ (3 sf)	**A1**	**1.1**	For both μ and σ correct to 3sf **BC** cao ($\mu = 32.6778$, $\sigma = 14.6411$) **SCB1** for either $\mu = 32.7$ (3sf) or $\sigma = 14.6$ (3sf) if neither A mark gained, but must be correct to 3sf. (max [5/6])
				[6]		
11	**(c)**		$\frac{b-10}{2} = -\frac{c-12}{3}$	**M1**	**3.1a**	oe but signs must be correct (e.g. accept $\frac{b-10}{2} = \frac{12-c}{3}$)
			$b = 18 - \frac{2}{3}c$	**A1**	**1.1**	oe but must have b as the subject
				[2]		