Question Number	Scheme	Marks
4(a)	$X \sim$ B(20, 0.4)	M1
	$P(5 \leqslant X < 8) = P(X \leqslant 7) - P(X \leqslant 4)$ or 0.4159 – 0.0510	M1
	= 0.3649 awrt 0.365	A1
		(3)
(b)	$Y \sim N(56, 33.6)$	M1A1
	$\frac{n - 0.5 - "56"}{\sqrt{"33.6"}} = -1.98$	M1M1 B1
	$n = 45$	A1cao
		(6)
	Notes	**Total 9**

(a)	**M1**	Writing or using B(20, 0.4)
	M1	For writing or using $P(X \leqslant 7) - P(X \leqslant 4)$ or P(X = 5) + P(X = 6) + P(X = 7)
	A1	awrt 0.365
(b)	**M1**	For writing or using N(56,…) (May be seen in a correct standardisation)
	A1	For writing or using N(56, 33.6) (May be seen in a correct standardisation)
	M1	For standardising (allow $\pm$) using any letter, their "56" and "33.6" and putting = to z value, where $1 < \|z\| < 2$ Condone missing ± 0.5 Condone 1 – standardisation, using any letter, their "56" and "33.6" and putting = to z value, where $1 < \|z\| < 2$
	M1	M1 for using a continuity correction -0.5 if using n or +0.5 if using $n - 1$. Either in their standardisation or after finding ***n*** (but not both) No need to put = to z value
	B1	For using $\pm$ 1.98 or better (calc gives) 1.97914…
	A1	45 – must see a correct continuity correction or an awrt 45.02 or awrt 45.03 45 from no working is 0/6