

Question			Answer	Mks	AO	Guidance	
8	(i)	(a)	0.0478 or 0.048 (2 sf)	B1 [1]	1.1	BC	
	(i)	(b)	22.5 or 23 (2 sf)	B1 [1]	1.1	BC	
	(i)	(c)	$P(X < 20 + b) = 0.75$ or $P(X > 20 + b) = 0.25$ $20 + b = 22.02..$ or 22.0 or 22 $b = 2.02$ or 2.0 (2 sf) Allow $b = 2$	M1 A1 A1 [3]	1.1a 1.1 1.1	$P(X < 20 - b) = 0.25$ $20 - b = 17.98$ or 18 $b = 22(.02)$ M1A1A0 T & I method: Try 2 values, one ≈ 2 M1 Correct probs for two values in $[2, 2.1]$ A1 Correct probs for two values in $[2, 2.05]$ & ans 2.0 or 2 A1	(0.495 & 0.516)
8	(ii)		$\frac{1.5\mu - \mu}{\mu/3}$ $= \frac{3}{2}$ $P(X > 1.5\mu) = 0.0668$ or 0.67 (2 sf)	M1 A1 A1 [3]	1.1a 1.1 1.1	$\frac{4.5\sigma - 3\sigma}{\sigma}$	SC (eg) Let $\mu = 1$; $N(1, \frac{1}{9})$ M1 $X = \frac{3}{2}$ A0 $P(X > \frac{3}{2}) = 0.067$ A1