

9	(a)		Area of 20-30 block $\div$ total area $= \frac{110}{750}$ or $\frac{22}{150}$ or $\frac{4.4}{30} = 0.147$ (3 sf) (AG)	M1 A1 [2]	1.2 1.1	<u>attempted</u> , using any units, eg small squares or cm^2 Correct calculation seen and answer 0.147 seen Not any method starting with 0.147, eg $0.147 \times 150 = 22.05$
9	(b)	(i)	Roughly bell-shaped	B1 [1]	2.2b	or Roughly symmetrical <u>and</u> peaks in middle or has one peak <u>and</u> tails off at each end, or drops off either side All 3 of these must be seen (except “Bell-shaped” scores B1) Not “Shape is like normal curve” Ignore all else
9	(b)	(ii)	Roughly symmetrical about $x = 40$, or area to left of 40 $\approx$ area to right of 40 or the peak is at 40 or 40 is in the middle $70 - 40 \approx 3\sigma$, hence $\sigma \approx 10$ or most values within 20 of mean, so $20 \approx 2\sigma$	B1	2.4	or calculate mean and obtain $\frac{5915}{150}$ or 39.4 Allow 40 has the highest frequency or frequency density Ignore all else or calculate sd and obtain 10.3 Most data is within 6σ

Question			Answer	Mark	AO	Guidance
			or (Area within 40±10)/total eg 510/750 or 102/150 = 0.68 or $\approx \frac{2}{3}$	B1 [2]	3.3	Must see correct fraction and $\approx \frac{2}{3}$, or 68% or 0.68
9	(c)		0.136 (3 sf)	B1 [1]	1.1	BC
9	(d)		$m = 39.4$ or $\frac{5915}{150}$ or $\frac{1183}{30}$, $s = 10.3$ (3 sf) or $s^2 = 106$ (3 sf) <			

Question			Answer	Mark	AO	Guidance
				[2]		Ignore all else NB No ft