1)

QUESTION 5

(a)	(i)	30	*(A1)*	*(C1)*
	(ii)	32	*(A1)*	*(C1)*
	(iii)	$38-10=28$	*(A1)(A1)*	*(C2)*

Note: Award *(A1)* for 10 and 38 seen, *(A1)* for correct answer only.

(b)		$0.25\times 56=14$	*(M1)(A1)*	*(C2)*

Note: Award *(M1)* for multiplying 0.25 by 56

N10/5/MATSD/SP1/ENG/TZ0/XX

2)

QUESTION 1

(a)	$m=137+31=168$,	*(M1)(A1)*	
	$n=194+6=200$ or just $n=200$	*(M1)(A1)*	*(C4)*
(b)	137 students are aged below 20.	*(A2)*	*(C2)*
(c)	25 % of 200 is 50.	*(M1)*	
	50th student is 18 years old.	*(A1)*	*(C2)*

M04/530/S(1)

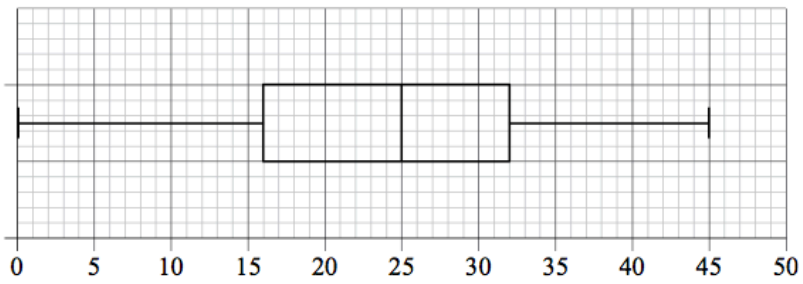
3)

QUESTION 3 ***Unit penalty applies in part (a)***

(UP)	(a)	Median = 25 mins	*(A1)*	*(C1)*
	(b)	$32-16$	*(A1)*	
		$=16$	*(A1)*(ft)	*(C2)*

Notes: Award *(A1)* for identifying correct quartiles, *(A1)*(ft) for correct answer to subtraction of their quartiles.

(c)



median shown	*(A1)*(ft)	
box with ends at their quartiles	*(A1)*(ft)	
end points at 0 and 45 joined to box with straight lines	*(A1)*	*(C3)*

Note: Award *(A1)*(ft)*(A1)*(ft)*(A0)* if lines go right through the box.

M10/5/MATSD/SP1/ENG/TZ2/XX

4)

QUESTION 9

(a)

%	0–20	20–40	40–60	60–80	80–100
F	14	26	**58**	**16**	**6**

(A1)(A1)(A1) ***(C3)***

(b) 50 ***(A1)*** ***(C1)***

(c) Mean $= \frac{10\times14+.....+90\times6}{120}$ ***(M1)***

Note: Award ***(M1)*** for correct substitution of their values from (a) in mean formula.

$= 45\frac{2}{3}(45.7)$ ***(A1)*(ft)** ***(C2)***

M10/5/MATSD/SP1/ENG/TZ1/XX

5)

QUESTION 1 ***Unit penalty (UP) applies in parts (a)(i), (ii) and (e)(i)***

(UP) (a) (i) median = 13 seconds ***(A1)***

(UP) (ii) 16 seconds and 10 seconds ***(A1)(A1)***

Note: Accept 16.1 or 16.2 for the upper quartile value.

(iii) IQR = 6 seconds ***(A1)*(ft)** ***[4 marks]***

Note: **(ft)** from reasonable answers to (ii).

M09/5/MATSD/SP2/ENG/TZ1/XX

6)

Q5

(a) Discrete ***(A1)*** ***(C1)***

(b) For attempting to find $\Sigma fx / \Sigma f$ ***(M1)***
2.73 ***(A1)*** ***(C2)***

(c) 1.34 ***(A1)*** ***(C1)***

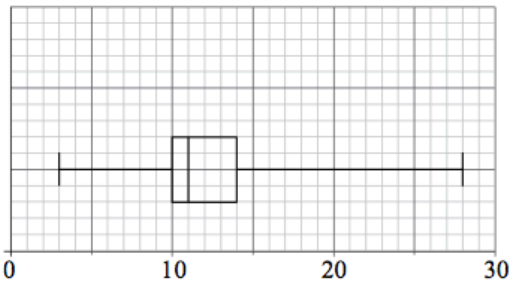
Note: for (b) and (c), if both mean and standard deviation given to 2 significant figures
*Award **(C1)(C0)(AP)** for 2.7. Award **(A1)(ft)** for 1.3 **((AP)** already deducted)*

(d) Attempt to find their mean + their standard deviation (can be implied) ***(M1)***
23, **(ft)** *their mean and standard deviation.* ***(A1)*(ft)*** ***(C2)***

[6 marks]

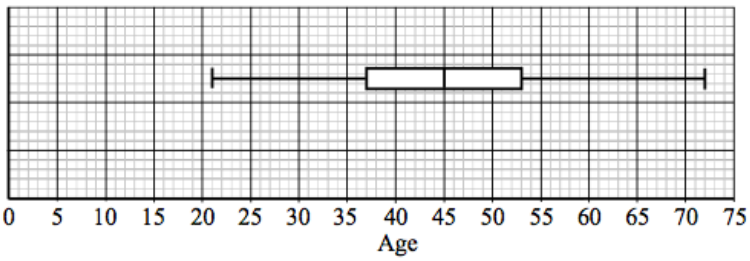
M08/5/MATSD/SP1/ENG/TZ2/XX+

7)

Q3.	***Unit penalty (UP) applies in part (a) in this question***		
UP	(a) Median = 11 m	***(A1)***	***(C1)***
	(b) Interquartile range = 14 – 10 = 4 ***(M1)*** *for taking a sensible difference or for both correct quartile values seen.*	***(A1)*** ***(A1)*(ft)***	***(C2)***
	(c)  correct median correct quartiles and box endpoints at 3 and 28, joined to box by straight lines *Award **(A0)** if the lines go right through the box.* *Award final **(A1)** if the whisker goes to 20 with an outlier at 28*	 ***(A1)*(ft)*** ***(A1)*(ft)*** ***(A1)***	 ***(C3)***
			[6 marks]

N08/5/MATSD/SP1/ENG/TZ0/XX

8)

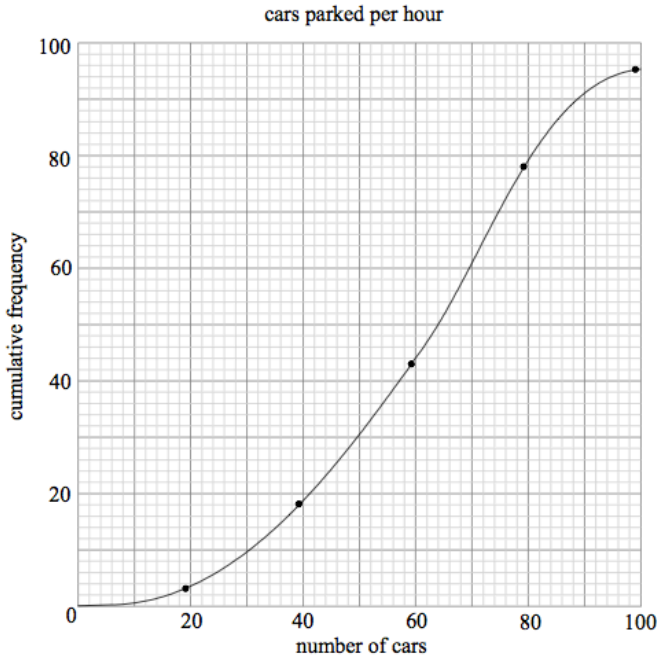
Q2	(a) Median = 45 *Accept* 45.5	***(A1)***	***(C1)***
	(b) 53 – 37 *for identifying correct quartiles*	***(A1)***	
	= 16 *for correct answer to subtraction* **(ft)** *on their quartiles*	***(A1)*(ft)***	***(C2)***
	(c)  Median marked correctly. Box with ends at candidate's quartiles. End points at 21 and 72 joined to box with straight lines. *Award **(A0)** if lines go right through the box.*	 ***(A1)*(ft)*** ***(A1)*(ft)*** ***(A1)***	 ***(C3)***
			[6 marks]

M08/5/MATSD/SP1/ENG/TZ1/XX+

9) **QUESTION 7**

(a) $w = 43$ *(C1)*

(b)



(A5) *(C5)*

Notes: Award ***(A1)*** for labels ("cumulative" is not essential).
Award ***(A1)*** for scales.
Award ***(A2)*** for all points correct, ***(A1)(A0)*** for 4 points correct.
Award ***(A1)*** for neat curve or straight line segments.

The curve must extend to zero for the last ***(A1)***.
The points must be at 19, 39 etc (ft from candidate's scale).
If the points are displaced **consistently,** (eg to 20,40 etc or to mid-points) then award ***(A0)(A1)***ft for points.
If the scale is marked as 19,39 etc, this is allowed as long as 0 is not included, is shown displaced right by one unit.
Scale marked as an interval (eg 0-19) is acceptable, if written within the interval.
Bar graph or histogram receive ***(A0)*** for curve but if bars are at correct height and terminate at 19, 39 etc or have correct points marked on them, then award ***(A2)*** for points or ***(A0)(A1)*** ft if points are consistently incorrect.)

(c) median $= 63 \pm 2$ *(M1)(A1)* *(C2)*

Note: Award ***(M1)*** for a horizontal line drawn at height 48. Answer must be an integer,follow through from candidate's graph.