Question	Scheme	Marks
1 (a)	**Time taken (*t* minutes)** | 5 – 10 | 10 – 14 | 14 – 18 | 18 – 25 | 25 – 40 **Frequency (*f*)** | 10 | 16 | 24 | 35 | 15	B1
		(1)
(b)	$10 + 16 + (2 \times 6)$ or $10 + 16 + \frac{24}{2}$ or $\frac{x-26}{50-26}=\frac{16-14}{18-14}$	M1
	$= 38$	A1
		(2)
(c)	$\left[\sum ft =\right] 7.5\times10+12\times16+16\times24+21.5\times'35'+32.5\times'15'[=1891]$	M1
	Mean = $\frac{1891}{100}=18.91$	A1
		(2)
(d)	Standard deviation = $\sqrt{\frac{41033}{100}-'\left(\frac{1891}{100}\right)^{2}'}$ or $\sqrt{\frac{41033-100\times'18.91'^{2}}{99}}$	M1
	$= 7.262...$ or $7.298\ldots$ awrt 7.26 or awrt 7.3[0]	A1
		(2)
(e)	[LQ =] $10+\frac{15}{16}(14-10)[=13.75]$ or $14-\frac{1}{16}(14-10)[=13.75]$ or $\frac{Q_1-10}{14-10}=\frac{25-10}{26-10}[=13.75]$ or $\frac{Q_1-14}{14-10}=\frac{25-26}{26-10}[=13.75]$	M1
	IQR = $23-'13.75'$	M1
	$= 9.25$	A1
	[LQ =] $10+\frac{15.25}{16}(14-10)[=13.8125]$ or $14-\frac{0.75}{16}(14-10)[=13.8125]$ or $\frac{Q_1-10}{14-10}=\frac{25.25-10}{26-10}[=13.8125]$ or $\frac{Q_1-14}{14-10}=\frac{25.25-26}{26-10}[=13.8125]$	M1
	IQR = $23-'13.8125'$	M1
	= awrt 9.19	A1
		(3)

	Notes	**Total 10**
(a)	**B1**	for 35 and 15 (If answers given are in both the table and answer lines then mark the answers given in the table)
(b)	**M1**	for $10 + 16 + (2 \times 6)$ or $10 + 16 + \frac{24}{2}$ or $\frac{x-26}{50-26}=\frac{16-14}{18-14}$
	A1	Cao
(c)	**M1**	A correct method for finding $\sum ft$ May be implied by 1891 Allow one error
	A1	18.91 Allow 18.9
(d)	**M1**	for a correct calculation of the standard deviation ft their mean
	A1	awrt 7.26 or awrt 7.3 if using $n-1$
(e)	**M1**	for $10+\frac{15}{16}(14-10)$ or $14-\frac{1}{16}(14-10)$ or $\frac{Q_1-10}{14-10}=\frac{25-10}{26-10}$ or $\frac{Q_1-14}{14-10}=\frac{25-26}{26-10}$ or $10+\frac{15.25}{16}(14-10)$ or $14-\frac{0.75}{16}(14-10)$ or $\frac{Q_1-10}{14-10}=\frac{25.25-10}{26-10}$ or $\frac{Q_1-14}{14-10}=\frac{25.25-26}{26-10}$
	M1	UQ – LQ ft their LQ provided LQ < UQ
	A1	For 9.25 or awrt 9.19 if $n+1$ is used