

Question	Scheme	Marks	AOs
1	1 square is $\frac{78}{12 \times 3 + 3 \times 4 + 2 \times 2} = \left[\frac{78}{52} = 1.5 \right]$ and $(8 \times 1 + 1 \times 8) \times "1.5"$	M1	3.1a
	24 students took less than 11 minutes	A1	1.1b
	Percentage of students = $\frac{"24"}{78 + "24" + 1 \times 8 \times "1.5" + 3 \times 4 \times "1.5"} \times 100$	M1	3.1b
	= 18.18... awrt 18%	A1	1.1b
		(4)	
Total 4			

Notes			
1	M1:	For clear use of frequency density to establish the fd scale and then use the area to find frequency of <11 minutes. Allow maximum of 3 errors in either the heights or widths in total if working shown. They may calculate the area using other size squares. Allow for realising they need to find the total number of squares (88) maximum of 4 errors in either the heights or widths and number < 11 minutes(16) - must have a maximum of 1 error in either the heights or widths (and not use the 78 as part of calculation)	
	A1:	For correct values seen. Allow for 88 and 16	
	M1:	For realising the need to find the total and calculating a percentage. (with “their 24” as the numerator). Allow $(8 \times 1 + 2 \times 8) \times "1.5"$ instead of $"24" + 1 \times 8 \times "1.5"$ If working shown can allow maximum of 2 errors in either the heights or widths in the calculation of the total. Allow “their 24” / 132 oe	
	A1:	awrt 18	