Question	Scheme	Marks	AOs
1(a)	$5 < t \leqslant 7$ group implies area of 1 cm^2 = freq 2	M1	2.1
	$14 < t \leqslant 18$ group has area 8 cm^2 so frequency 16	A1	1.1b
		(2)	
(b)	$18 < t \leqslant 30$ group freq $= 120 - (10 + 23 + 51 + '16') = 20$	B1ft	3.1a
	$\bar{x} = \dfrac{6 \times 10 + 8.5 \times 23 + 12 \times 51 + 16 \times '16' + 24 \times '20'}{120}$	M1	1.1b
	$= \dfrac{1603.5}{120} = 13.3625$ awrt 13.4	A1	1.1b
		(3)	
(c)	$15.5 + 1.5 \times (15.5 - 9.6) =$ (awrt 24.3 ~ 24.4) Limit for outlier 24.3~24.4 so (high) chance of outliers in $18 < t \leq 30$ group	M1 A1	2.4 2.2b
		(2)	
(d)	$P_5 = 5 + \dfrac{6}{10} \times 2$	M1	3.1b
	= 6.2 mins (= 6 minutes 12 seconds)	A1	1.1b
		(2)	
			(9 marks)

Notes:

(a) M1 use of $5 < t \leq 7$ group using area or freq density
A1 frequency = 16 only

(b) B1 freq of $18 < t \leq 30$ group ft their '16'
M1 correct method seen (at least 2 terms) for mean of grouped data, (may be implied by correct answer)
A1 awrt 13.4

(c) M1 Use of $Q_3 + 1.5 \times$ IQR
A1 correct limit found and correct conclusion

(d) M1 attempt to interpolate $5 < t \leq 7$ in group
A1 6.2 minutes or accept 6 minutes 12 seconds.