

1	Use of 2 hrs 42 mins = 2.7 hrs or 162 mins		4	B1
	e.g. $90 \times 2.7 (= 243)$ or e.g. $\frac{90}{60} \times 162 (= 243)$			M1 for use of $D = S \times T$ (accept use of their time e.g. 90×2.42) or for setting up an equation using proportion
	or e.g. $\frac{S}{90} = \frac{2.7}{3}$			M1 (dep on M1) for their $D \div 3$ or for solving their equation
	e.g. "243" $\div 3$ or ($S =$) $90 \times \frac{2.7}{3}$			A1
		81		
				Total 4 marks

2	$100 \div 28\ 440 (= 0.0035\dots)$ or $28\ 440 \div (60 \times 60) (= 7.9)$		3	M1
	'0.0035...' $\times 60 \times 60$ or $100 \div '7.9'$			M1
		13		A1 for 12.65 – 13
				Total 3 marks

3	3 hours 36 mins = 216 mins or 3.6 hours		3	M1
	$2470 \div 3.6$ or $2470 \div 216 \times 60$ oe			M1 Allow $2470 \div 3.36 (= 735$ or better)
		686		A1
				Total 3 marks

4	(b)	[8.3, 8.7]		4	B1 for 8.3 – 8.7
		'[8.3, 8.7]' $\times 20$ (= '[166, 174]')	$24 \div 20 (= 1.2)$		M1
		'[166, 174]' $\div 24$ ([6.9....., 7.3])	'[8.3, 8.7]' $\div '1.2'$ ([6.9....., 7.3])		M1
			7		A1

5	For [8 hours 12 minutes =] 8.2 [hours] or $8\frac{12}{60}$ oe or $\frac{41}{5}$ oe or $8 \times 60 + 12 (= 492)$ [minutes]		3	B1 for correctly writing the time as a time in hours or minutes or for a correct calculation to do this
	[Average speed =] $\frac{5658}{8.2}$ oe $\frac{5658}{"492"} \times 60$ oe			M1 for use of speed = distance \div time (use of their time in hours – if used minutes, then must multiply by 60) (allow $5658 \div 8.12 (= 696.79\dots)$ for this mark if B0 awarded (allow $696 - 697$))
	<i>Working not required, so correct answer scores full marks (unless from obvious incorrect working)</i>	690		A1
				Total 3 marks

6	3.4 or $\frac{17}{5}$ or $3\frac{2}{5}$ or $3\frac{24}{60}$ or 204 oe		3	B1
	$433.5 \div 3.4$ or $433.5 \div \frac{17}{5}$ or $433.5 \div 3\frac{2}{5}$ or $\frac{433.5}{'204'} \times 60$ oe			M1 for use of speed = distance \div time Allow $433.5 \div 3.24 (= 133.796\dots)$ for this mark only
		127.5		A1 oe allow 128
				Total 3 marks

7	6 hrs 39 mins = 6.65 (hrs) or $6\frac{39}{60}$ or $6\frac{13}{20}$ or $\frac{133}{20}$ or 399 (mins)		3	B1
	Average speed = $\frac{429}{6.65}$ oe eg $\frac{429}{399} \times 60$			M1 Use of $S = D \div T$ (use of their time in hours) [Allow $\frac{429}{6.39}$ if B0 awarded]
		64.5		A1 awrt 64.5
				Total 3 marks

8	For sight of 5 hrs 24 mins = 5.4 (hrs) or $5\frac{24}{60} (= 5\frac{2}{5})$ oe or 324 (mins)		3	B1	
	$3980 \div 5.4$ oe or $\frac{3980}{324} \times 60$			M1	For distance \div time that should give a speed in km/h. (SC allow $3980 \div 5.24 (= 759.5\dots$ or 760) for this mark unless mark has been awarded for 324 minutes or 5.4 hours oe)
		737		A1	awrt 737 (if no working shown, 738 gets SCB2)
Total 3 marks					

9	$220 \div 80 (= 2.75$ or $\frac{11}{4})$ oe				M1 for a method to find the time from B to C
	$72 \times \frac{50}{60} (= 60)$ oe				M1 for a method to find the distance from C to D Allow 0.83(333...) to 2 dp truncated or rounded
	$\frac{245 + 220 + "60"}{2.5 + "2.75" + \frac{50}{60}} (= \frac{525}{\frac{73}{12}})$ oe				M1 for a complete method to find the average speed for entire journey 0.83(333...) to 2 dp truncated or rounded 6.0(8333...) to 2 sf truncated or rounded
		86.3			A1 for 86.3 – 86.4
Total 4 marks					

10	3 hours 15 mins = 3.25 (hours) or $3\frac{1}{4}$ (hours) or $3\frac{15}{60}$ (hours) or 195 (mins)		3	B1	For converting 3 hrs 15 minutes into hours or minutes
	$18.2 \div "3\frac{1}{4}"$ oe or $18.2 \div "195" \times 60$			M1	For use of $D \div T$ allow $18.2 \div 3.15$ or their incorrect time conversion (must be clear that this is their time conversion) If B mark awarded then the value that gained that mark must be used here to gain this method mark.
		5.6		A1	oe
Total 3 marks					

11	$\frac{90 \times 1000 (= 90\,000)$ or $\frac{90}{60 \times 60} (= 0.025$ or $\frac{1}{40})$ or $\frac{1000}{60 \times 60} (= \frac{5}{18} = 0.277\dots)$ or sight of 1500		3	M1	For one of $\times 1000$ (eg sight of 90 000) or $(\div 60 \div 60)$ or $\div 3600$ oe ie correct conversion of distance units or of time units	M2 for $90 \div 3.6$ or $90 \times \frac{5}{18}$
	$\frac{90 \times 1000}{60 \times 60}$ oe eg $(1.5 \times 1000) \div 60$			M1	For a fully correct method with correct use of brackets eg $90\,000 \div 60 \times 60$ is M1 only if not recovered	
	Working required	25		A1	dep on M1	
Total 3 marks						

12	3.3 or $\frac{33}{10}$ or $3\frac{3}{10}$ or $3\frac{18}{60}$ oe or $180 \div 18$ or 198 oe		3	B1	for working out the time in hours or minutes
	$515 \div 3.3$ or $515 \div \frac{33}{10}$ or $515 \div 3\frac{3}{10}$ or $\frac{515}{"198"} \times 60$ oe			M1	Units must be consistent
	Correct answer scores full marks (unless from obvious incorrect working)	156		A1	allow 156 – 156.1 SCM1 for $515 \div 3.18 (= 161.9\dots$ or 162)
Total 3 marks					

13	(b)	eg “9.4” \times 50 (= 470) [460 – 480] or eg “9.4” \div 2 (= 4.7) [4.6 – 4.8]		3	M1 Their measurement \times 50 or \div 2 Working may be shown by diagram
		“9.4” \times 50 \div 2			M1 Their measurement \times 50 and \div 2 Working may be shown by diagram
		<i>Correct answer scores full marks (unless from obvious incorrect working)</i>			A1 accept 230 – 240