

Speed, Distance,
Time

November 2021 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
11 (a)	3 hrs 16 mins	P1	$196 - 60 - 60 - 60 (=16)$ oe or $196 \div 60 (= 3.26.. \text{ or } 3.27\dots)$ or states 3 hours in their answer (with an incorrect number of minutes or minutes left blank)	
(b)	$\frac{x}{2}$	A1 B1	3 hours 16 minutes $\frac{x}{2}$ oe	

November 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
12	111	M1	for a complete method, eg 37×3 oe	
		A1	cao	

June 2024 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
14 (a)	12	M1	for method to find speed, eg $36 \div 3$ or $\frac{36}{3}$	Condone $36 \div (3 \times 60)$
		A1	cao	
(b)	Yes with supporting figures	P1	for process to find time, eg $36 \div 16 (= 2.25)$ or $36 \div 16 \times 60 (= 135)$	
		P1	for full process to find figures to compare, eg $3 + "2.25" (= 5.25)$ or $3 \text{ hours} + "2 \text{ hours } 15 \text{ mins}" (= 5 \text{ hours } 15 \text{ mins})$ or $5 \text{ hours } 20 \text{ mins} - "2 \text{ hours } 15 \text{ mins}" (= 3 \text{ hours } 5 \text{ mins})$ or $5 \text{ hrs } 20 \text{ mins} - 3 \text{ hours} (= 2 \text{ hrs } 20 \text{ mins})$ and $36 \div 16 (= 2.25)$	
		C1	Yes with correct supporting figures, eg $5.25(\text{hours})$ (and $5.33.. \text{ hours}$) or $5 \text{ hours } 15 \text{ mins}$ or $3 \text{ hours } 5 \text{ mins}$ or $2 \text{ hrs } 20 \text{ mins}$ and $2 \text{ hrs } 15 \text{ mins}$ oe	If units are provided they must be correct for their figures for the C mark

November 2022 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
14 (a)	81	M1	for $54 \times [\text{time}]$ eg $54 \times 1\frac{1}{2}$ oe, or $54 + 54 \div 2$ oe	[time] could be $1\frac{1}{2}$ oe or any other time that has been changed from $1\frac{1}{2}$, eg 90 (mins) or 1.30 or 130
(b)	1.5	A1	cao	
		P1	for use of scale eg $6 \times 25\ 000$ (= 150 000) or for $25\ 000 \div 100\ 000$ (= 0.25) or $25\ 000 \div 100$ (= 250) or $25\ 000 \div 1000$ (= 25)	[0.25] could be found by dividing 25 000 by 100 (= 250) or dividing 25 000 by 1000 (= 25)
		P1	for “150 000” \div 100 000 (= 1.5) or “150 000” \div 100 (= 1500) or “150 000” \div 1000 (= 150) or for $[0.25] \times 6$ (= 1.5)	
		A1	for 1.5 oe	

June 2023 Paper 2

Question	Answer	Mark	Mark scheme	Additional guidance
16	98	M1	for method to use speed, distance and time, eg $56 \times [\text{time}]$ or $56 \times 105 (= 5880)$ or $56 \div 4 \times 3 (= 42)$ or $56 \div 60 (= 0.933\dots)$ OR for method to convert decimal time, eg $(60 + 45) \div 60 (= 1.75)$ or $45 \div 60 (= 0.75)$	For this mark accept [time] written unconventionally eg as 1.45, 145, 175, 75
		M1	for a complete method using decimal time, eg $56 \times "1.75"$ or $"5880" \div 60$ or $"0.933\dots" \times 105$ or $56 + "42"$ or $56 + "28" + "14"$	
		A1	for 97.65 to 98.3	

June 2022 Paper 1

Question	Answer	Mark	Mark scheme	Additional guidance
16 (a)	(0)8 45	P1	for $50 \div 40 (= 1.25)$ oe or (time =) (0)8 30 (after travelling for) 40 miles	
		P1	for a process to convert their time to minutes or hours and minutes, eg “1.25” $\times 60 (= 75 \text{ mins} = 1 \text{ hr } 15 \text{ mins})$ or for $\frac{10}{40} \times 60 (= 15 \text{ mins})$	May be seen as a build-up method and may state 1 hour 15 mins
		A1	for (0)8 45 oe	SC: B2 for answer of (0)8 55 (= 7.30 + 1.25)
(b)	Explanation	C1	<p>Acceptable examples It will be earlier Time will be reduced He will get there quicker/faster He will arrive at a different time The journey will be shorter so he will arrive earlier</p> <p>Not acceptable examples He will arrive later The time will increase</p>	Explanations must be unambiguous

November 2021 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
24	260	<p>P1</p> <p>P1</p> <p>P1</p> <p>A1</p>	<p>conversion to common units of capacity eg $2.2 \times 4.54 (= 9.988)$ or $8 \div 4.54 (= 1.76\dots)$ OR for company A $2400 \div 4.54 (= 528.63\dots)$ OR $2400 \div 8 (= 300)$ OR a rate per minute $8 \div [\text{time for Company A}] (= 4.8\dots)$ oe</p> <p>for a complete process to find the time for one water rate in minutes. eg in litres Company A $2400 \div "4.8\dots" (= 500)$ or $"300" \times [1 \text{ min } 40 \text{ sec}] (= 500)$ or Company B $2400 \div "9.988" (= 240.28\dots)$</p> <p>OR eg in gallons Company A $"528.63\dots" \div ("1.76\dots" \div [1 \text{ min } 40 \text{ sec}]) (= 500)$ or Company B $"528.63\dots" \div 2.2 (= 240.28\dots)$</p> <p>for complete processes to find the times for both company A and company B in minutes.</p> <p>Company A eg in litres $2400 \div "4.8\dots" (= 500)$ or $"300" \times [1 \text{ min } 40 \text{ sec}] (= 500)$ or in gallons $"528.63\dots" \div ("1.76\dots" \div [1 \text{ min } 40 \text{ sec}]) (= 500)$ AND Company B eg in litres $2400 \div "9.988" (= 240.28\dots)$ or in gallons $"528.63\dots" \div 2.2 (= 240.28\dots)$</p> <p>for an answer in the range 259 to 260</p>	<p>[time for Company A] could be 1 min 40 sec or 1.66... or 1.6 or 1.40 etc as long as it is clear it relates to 1 min 40 sec</p> <p>Results of calculations may be truncated or rounded.</p> <p>If the answer is given within the range but then rounded incorrectly award full marks.</p>

June 2020 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
24	2 hours 45 minutes	P1 P1 A1	for $30 \div 24 (= 1.25)$ or $12 \div 8 (= 1.5)$ for finding the sum of their two times eg “1.25” + “1.5” (= 2.75) or 165 (minutes) cao	May be written in hours and/or minutes or 3 h 15 min or 2 h 75 min

June 2023 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
25	65	P1 P1 A1	<p>for a correct process to find the number of seconds, eg $67\,205\,600 \div 11.9 (= 5\,647\,529.4\dots)$</p> <p>or</p> <p>for a correct process to convert between seconds and days, eg $24 \times 60 \times 60 (= 86\,400)$ oe, may be seen in stages or $11.9 \times 60 \times 60 \times 24 (= 1\,028\,160)$</p> <p>for a complete process, eg “$5\,647\,529.4\dots$” \div “$86\,400$” or $67\,205\,600 \div$ “$1\,028\,160$”</p> <p>accept answers in the range 65 to 65.4 or 66</p>	<p>Note that this mark may be awarded at any stage in the working.</p> <p>If a correct answer within the range is shown in working but incorrectly rounded award full marks.</p>

November 2023 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
26	7 hours 56 minutes	P1 P1 A1	for process to begin to work with speed, eg $143 \div 55 (= 2.6)$ for process to work in minutes, eg “2.6” $\times 60 (= 156 \text{ mins})$ and $5 \times 60 + 20 (= 320 \text{ mins})$ or for 476 (mins) or for process to work in hours eg “2.6” and $5\frac{20}{60} (= 5.33\dots)$...or for 7.93... or for process to work in hours and minutes, eg “2” + (“0.6” $\times 60$) (= 2 hrs 36 mins)	May work in minutes or hours and minutes Accept 2 or more decimal places for this mark

June 2022 Paper 3

Question	Answer	Mark	Mark scheme	Additional guidance
27	10	<p>P1</p> <p>P1</p> <p>P1</p> <p>A1</p>	<p>for a process to use distance = speed × time for either of the parts of Jessica’s journey,</p> <p>eg. $6 \times \frac{15}{60}$ (= 1.5) or $9 \times \frac{40}{60}$ (= 6) or 6×15 (= 90) or 9×40 (= 360)</p> <p>for a process to add the 2 distances for Jessica,</p> <p>eg $6 \times \frac{15}{60} + 9 \times \frac{40}{60}$ (= 7.5) or $6 \times 15 + 9 \times 40$ (= 450)</p> <p>for complete process to find Amy’s average speed,</p> <p>eg. “7.5” ÷ “0.75” oe or “450” ÷ 45</p> <p>cao</p>	<p>Must be consistent units at this stage.</p>