Paper: 1MA1/3F				
Question	**Working**	**Answer**	**Mark**	**Notes**
21 **Q1**		648	M2 [M1 A1	a complete method, eg 12.5 × 1000 ÷ 19.3 for using volume = mass/density, eg 12500 ÷ 19.3 (condone inconsistent units or incorrect conversions) may be implied by digits 647... or 648...]! for answer in range 647 to 648

Paper: 1MA1/2F					
Question		**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
9	(a)	62	M1 A1	for distance ÷ time eg 186 ÷ 3 **or** 186 ÷ (3× 60)(=1.03..) cao	May use hours or minutes at this point
Q2	(b)	232	M1 A1	for speed × time eg 58 × 4 **or** 58 × 4 × 60 (=13920) cao	May use hours or minutes at this point

Paper: 1MA1/3F					
Question		**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
11	(a)	3 hrs 16 mins	P1	196 − 60 − 60 − 60 (=16) oe **or** 196 ÷ 60 (= 3.26.. or 3.27…) **or** states 3 hours in their answer (with an incorrect number of minutes or minutes left blank)	
Q3			A1	3 hours 16 minutes	
	(b)	$\frac{x}{2}$	B1	$\frac{x}{2}$ oe	

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
14 (a)	81	M1	for $54 \times$ [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
		A1	cao	
(b)	1.5	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)	
Q4		P1	for "150 000" ÷ 100 000 (= 1.5) or "150 000" ÷ 100 (= 1500) or "150 000" ÷ 1000 (= 150) **or** for [0.25] × 6 (= 1.5)	[0.25] could be found by dividing 25 000 by 100 (= 250) or dividing 25 000 by 1000 (= 25)
		A1	for 1.5 oe	

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
16 (a)	(0)8 45	P1	for 50 ÷ 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" × 60 (= 75 mins = 1 hr 15 mins) **or** for $\frac{10}{40} \times 60$ (= 15 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) **Q5**	Explanation	C1	**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 **Not acceptable examples** He will arrive later The time will increase	Explanations must be unambiguous

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
9 (a)	6	M1	for method to find distance, eg 4 × time difference **or** 30 mins = 2 miles	10.30 am – 9 am may be seen as 1.5(hr) or 1(hr) 30 (min) or 90 (min) or $\frac{3}{2}$(hr) or $1\frac{1}{2}$ (hr)
Q6		A1	cao	
(b)	12 35 pm	M1	for method to add time using consistent units eg 11 20 **or** 50 + 75 **or** 2 hours 5 mins	
		A1	12 35 pm or 12 35 (h)	Allow 12 35 but not 12 35 am

Paper 1MA1: 2F				
Question	**Working**	**Answer**	**Mark**	**Notes**
20 (a)		57.1	P1	for a process to find time from Liverpool to Manchester, eg. 56 ÷ 70 (= 0.8 (hrs) or 48 (mins))
			P1	for a process to find the total distance, eg 56 + 61 (= 117) or the total time, eg"48" + 75 (= 123) or "0.8" + $\frac{75}{60}$ (= 2.05), with consistent units of time
Q7			P1	(dep P2) for a correct process to find average speed with consistent units of time, eg."117" ÷ "2.05" or ."117" ÷ "123"
			A1	for answer in the range 57 to 57.1
(b)		explanation	C1	for explaining that the time taken for the two parts of the journey must be the same or the distance from Leeds to York is $\frac{3}{4}$ the distance from Barnsley to York oe

Paper: 1MA1/3F				
Question	**Working**	**Answer**	**Mark**	**Notes**
20		1.01	P1	fruit syrup 15 × 1.4 (= 21) or water 280 × 0.99 (= 277.2) or apple juice 25 × 1.05 (= 26.25)
			P1	(dep P1) for complete process to find the total mass e.g. "277.2" + "26.25" + "21" (= 324.45) or a weighted density eg 15 × 1.4 ÷ 320 (= 0.065625) or 280 × 0.99 ÷ 320 (= 0.86625) or 25 × 1.05 ÷ 320 (= 0.08203125)
Q8			P1	(dep P2) for complete process to find the density eg "324.45" ÷ 320 (=1.01..) or "0.065625" + "0.86625" + "0.08203125" (= 1.0139..)
			A1	1.01 to 1.014

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
24 (a) **Q9**	16 to 20	P1 P1 A1	for using time = $\frac{\text{distance}}{\text{speed}}$, eg $\frac{1}{200}$ or $\frac{1}{213}$ **or** for 1 hour = 60 × 60 (= 3600) seconds complete process, eg $\frac{1}{200} \times 60 \times 60$ oe or $\frac{1}{213} \times 60 \times 60$ for answer in range 16 to 20	Calculation could be done in stages.
(b)	decision with reason	C1	(dep on correct use of time = $\frac{\text{distance}}{\text{speed}}$) for reason related to their response to part(a), eg overestimate as speed rounded down	

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
24 (a)	2 mins 48 secs	P1	for an appropriate first step eg 700 ÷ 475 (=1.47..) **or** 475 ÷ [time] (= 4.16.. m/s) **or** [time] ÷ 475 (= 0.24 s/m)	[time] what candidate indicates as time of first race Units are not needed and can be ignored if given
		P1	for a complete process to find the required time eg 700 ÷ 475 × [time] (=168) **or** 700 ÷ (475 ÷ [time]) (=168) **or** [time] ÷ 475 ×700 (=168)	Allow calculation in stages and appropriate rounding.
		A1	cao	
(b) **Q10**	Statement	C1	eg takes less time **Acceptable examples** Quicker time Faster time Reduces my answer to part (a) **Not acceptable examples** It is an underestimate The amount of time could/may increase Laura goes faster	

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
22 (a)	Estimated value	P1	for using a rounded value in a correct process eg 3000 ÷ 15 **or** 15 × 8 **or** 20 × 8	Their rounded value must be used in a calculation Rounding may appear after a correct process eg 15.12 × 8 = 120.96 ≈ 100 followed by eg 3069.25 ÷ 100
Q11		P1	for a full process to find the number of days eg "3000" ÷ "15" ÷ "10" (= 20) **or** "3000" ÷ "15" ÷ 8 (= 25)	Accept 3069.25 ÷ 15.12 ÷ 8 oe
		A1	for a correct answer following through their rounded values	
(b)	Explanation	C1	eg less days required **or** it doesn't affect the answer because I would still round 16.27 down to 15 (or up to 20)	Refers to time taken

Paper: 1MA1/2F					
Question		**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
25 **Q12**		No (supported)	P1 P1 A1	For a process to calculate the initial or new pressure, eg (70 +10) ÷ (20+10) (=2.6 to 2.7) **or** 80 ÷ 30 (=2.6 to 2.7) **or** 70 ÷ 20 (=3.5) For a complete process to make a comparison eg. 0.8 × "3.5" (=2.8) **OR** $\frac{("3.5"-"2.6")}{"3.5"} \times 100$ (=22 to 26) **OR** "3.5" × 0.2 (=0.7) **and** 80 ÷ 30 (=2.6 to 2.7) **OR** $\frac{"2.6"}{"3.5"}$ (× 100) (=0.74 to 0.78 **or** 74 to 78) for a correct conclusion supported by accurate figures eg 2.8 **and** 2.6(6…) **OR** decrease is 24% (or 22% to 26%) **OR** 0.7 **and** 2.6 to 2.7 **and** 3.5 **OR** 0.7 **and** 0.9 **OR** 0.76 (or 0.74 to 0.78) **OR** 76% (or 74% to 78%)	Accept any value in the range 2.6 to 2.7 if unsupported by working Allow truncation or rounding of figures

Pape: 1MA1/1F					
Que. tion		**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
16	(a)	45	B1	cao	
	(b)	50	M1	for an attempt to find the gradient eg "25" ÷ "0.5" ft their readings from the travel graph; use of speed-time formula eg 25 ÷ 30 (ignore units if shown)	could be shown in working or on the graph using any acceptable triangle; could be shown by multiples of 25, 0.5 or multiples of ft figures
Q13			A1	cao	

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
24 **Q14**	2 hours 45 minutes	P1 P1 A1	for 30 ÷ 24 (= 1.25) or 12 ÷ 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

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
29 **Q15**	96	M1 M1 A1	for a complete process to find the volume eg $6 \times 4 \times 10 \div 2$ (= 120) for a complete process, eg $(6 \times 4 \times 10 \div 2) \times 0.8$ cao SC B1 for 192	

Paper: 1MA1/2F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
23 (a)	80	M1	for a complete method eg $\frac{20}{15} \times 60$ **or** 20×4 **or** $20 \div \frac{1}{4}$	
		A1	cao	
(b)	Travel graph	M1	for method to find distance travelled in last 20 minutes, eg $75 \times \frac{20}{60}$ (= 25)	Can be implied by a distance of 25km drawn on the graph
Q16		C2	for a fully correct travel graph	
		(C1	for horizontal straight line from (10 15, 20) to (10 25, 20) **or** for a line of the correct length and gradient to indicate a speed of 75km/h eg straight line from (10 25, 20) to (10 45, 45))	

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
25	1250	P1	for process to use area of base in the formula, eg $\frac{10000}{2\times4}$	
Q17		A1	cao	

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
19 (a)	15	B1	cao	
(b)	4.6	B1	for an answer in the range 4.4 to 4.8	
(c)	12	M1	for a method to calculate speed eg distance ÷ time (could be implied from figures used) eg $4 \div 20$ (= 0.2) oe, $4 \div 0.33(...)$ oe or $4 \div 1/3$ oe	Accept readings from the graph as an indication at this stage
Q18		A1	cao	

Paper: 1MA1/1F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
29 **Q19**	3 : 2	P1 P1 A1	for a process to find either volume eg 3^3 (= 27) or 4^3 (= 64) for showing density **A** = 81 ÷ "27" (= 3) or density **B** = 128 ÷ "64" (= 2) for 3 : 2 oe	 Ignore units quoted

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
27 **Q20**	10	P1 P1 P1 A1	for a process to use distance = speed × time for either of the parts of Jessica's journey, eg. $6\times\frac{15}{60}$ (= 1.5) or $9\times\frac{40}{60}$ (= 6) or 6 × 15 (= 90) or 9 × 40 (= 360) for a process to add the 2 distances for Jessica, eg $6\times\frac{15}{60}+9\times\frac{40}{60}$ (= 7.5) or 6 × 15 + 9 × 40 (= 450) for complete process to find Amy's average speed, eg. "7.5" ÷ "0.75" oe or "450" ÷ 45 cao	 Must be consistent units at this stage.

Paper: 1MA1/3F				
Question	**Answer**	**Mark**	**Mark scheme**	**Additional guidance**
27 **Q21**	50	B1	for finding the time difference, eg, 1hr 18 mins or 78 mins oe	Allow 1.18 for this mark 118 scores B0
		P1	for correct process to convert minutes to hours, eg 18 ÷ 60 (=0.3) **or** 78 ÷ 60 (=1.3) **or** for a correct process to convert speed in miles per minute to mph eg "0.833..." × 60	For a conversion of time or speed
		P1	for using speed = distance ÷ time eg, 65 ÷ [time] **or** 65 ÷ 78 (=0.833...)	[time] is what the candidate clearly indicates as time difference
		A1	cao SCB2 for 83(.333…) seen as the answer	