

Q1. (2022)

Q	Answer	Mark	Comments
8	Alternative method 1: using different time periods		
	450 ÷ 30 or 15 or 250 ÷ 10 or 25	M1	oe for any section of the basic rate or the overtime rate eg $\frac{450-150}{30-10}$
	15 and 25	A1	implied by any ratio equivalent to 3 : 5 do not allow as a ratio in the wrong order eg 25 : 15
	3 : 5 or $\frac{3}{5} : 1$ or $1 : \frac{5}{3}$	B1ft	oe fully simplified ft full simplification of their two values
	Alternative method 2: using equal time periods		
	Four correct readings from equal time periods of at least 5 hours from the two sections of the graph	M1	eg at 5 and 10 hours and at 35 and 40 hours if a reading from 30 is used, there may only be 3 readings a reading of 0 from 0 may be implied
	15 and 25 or correct totals for their equal time periods	A1	eg 10 hours = 150 and 10 hours = 250 implied by any ratio equivalent to 3 : 5 must not be seen as a ratio in the wrong order eg 250 : 150
	3 : 5 or $\frac{3}{5} : 1$ or $1 : \frac{5}{3}$	B1ft	oe fully simplified ft full simplification of their two values

8 cont	Additional Guidance	
	In alt 2, only three readings are needed if a reading from 30 hours is included in both time periods or a reading of 0 is used eg readings of 300 from 20, 450 from 30 and 700 from 40	M1
	Readings from 10, 20, 30 and 40 should be 150, 300, 450 and 700 For readings from other numbers of hours not giving a multiple of £10 allow the multiple of 10 above or below the reading or any value between, which can then be used to score all three marks eg allow [220, 230] for a reading at 15 hours eg alt 1 readings of 70 at 5 hours, 380 at 25 hours, 450 at 30 hours and 700 at 40 hours, followed by hourly rates of 15.50 and 25 and an answer of 31 : 50 eg alt 2 readings of 370 at 25 hours, 450 at 30 hours, 580 at 35 hours and 700 at 40 hours, followed by totals of 80 and 120 or hourly rates of 16 and 24 and an answer of 2 : 3	M1A1B1ft M1A1B1ft
	For $1\frac{2}{3}$ allow 1.67 or better with correct rounding	
	450 : 250 = 45 : 25 does not get the mark for 25, but gets the final mark if simplified to 9 : 5	
	Ignore units throughout eg answer £3 : £5	M1A1B1
	15 : 25	M1A1B0
	25 : 15 or 25 : 10 not simplified	M1A0B0
	25 : 15 with answer 5 : 3 or 25 : 10 with answer 5 : 2	M1A0B1ft
	Answer 5 : 3 without working implies	M1A0B1ft
	15 : 17.5	M1A0B0
	15 : 17.5 followed by 6 : 7	M1A0B1ft
	20 : 25	M1A0B0
	20 : 25 followed by 4 : 5	M1A0B1ft
	3 : 5 in working with answer 1.5 : 2.5	M1A1B0
	30 : 10 = 3 : 1	M0A0B1ft

Q2. (2022)

Q	Answer	Mark	Comments
10	Alternative method 1		
	Pair of arcs, equal radii (± 2 mm), centre B , intersecting AB and BC	M1	oe eg single arc, centre B , intersecting AB and BC or single arc, centre B , radius BC (± 2 mm), intersecting AB
	Pair of intersecting arcs, equal radii (± 2 mm), centres the intersections on AB and BC and angle bisector drawn from B at least to the intersection of their arcs	A1	dashed line or condone solid line
	Correct region R shown as the area between AB and a straight line from B to within 2 mm of AD	B1	R may be labelled or shaded arcs not required for this mark only SC1 angle bisector for a different angle correctly constructed with arcs
	Alternative method 2		
	Concentric arcs from B , each intersecting AB and BC	M1	intersections with AB and BC must be seen, but full arcs are not necessary
	Two lines from the AB intersection of one arc to the BC intersection of the other arc and angle bisector drawn from B at least to the intersection of their lines	A1	dashed line or condone solid line
	Correct region R shown as the area between AB and a straight line from B to within 2 mm of AD	B1	R may be labelled or shaded arcs not required for this mark only SC1 angle bisector for a different angle correctly constructed with arcs
	Additional Guidance		
	Mark any correct construction, ignoring incorrect attempts		
	Unless shaded incorrectly, ignore construction arcs or other lines in the region labelled		
	Bisector drawn with no construction arcs, but region correctly identified		M0A0B1