1	Any two of (–1, –4), (0, –1), (1, 2), (2, 5) and (3, 8) or other correct points	M1	may be seen in a table may be implied by points plotted
	At least two correct points plotted correctly or at least two of their points plotted correctly	M1	implied by correct line which does not have to extend from (–1, –4) to (3, 8) $\pm \frac{1}{2}$ small square
	Straight, ruled line from (–1, –4) to (3, 8)	A1	$\pm \frac{1}{2}$ small square ignore line beyond (–1, –4) and (3, 8)
	Additional Guidance		
	Ignore extra points listed or plotted		
	M marks can be scored even if wrong line drawn		
	M marks are independent, the second mark can be awarded for correct plotting of two of their points		

2	**Alternative method 1**		
	280 ÷ 35 or 8	M1	oe eg 80 ÷ 10
	(350 – 280) ÷ (40 – 35) or 70 ÷ 5 or 14	M1	oe
	6	A1	
	Alternative method 2		
	320 or 350 – 320 or 30 or 350 – 280 and 320 – 280 or 70 and 40	M1	oe
	(350 – 320) ÷ 5 or (70 – 40) ÷ 5 or 30 ÷ 5	M1dep	oe
	6	A1	
	Additional Guidance		
	Do not allow a misread from the graph		
	Alt 2 40 must come from 320 – 280 and not 40 hours worked		

Q	Answer	Mark	Comments
3(a)	20	B1	

Q	Answer	Mark	Comments
3(b)	$28-20$ or $\frac{36-20}{2}$ or $\frac{44-20}{3}$ or $\frac{52-20}{4}$ or $\frac{60-20}{5}$ or correct calculation using any two points, eg $\frac{60-44}{2}$ or 2×4	M1	
	8	A1	
	Additional Guidance		
	(60 ÷ 5 =) 12		M0A0

Q	Answer	Mark	Comments
3(c)	**Alternative method 1**		
	their $20 + 7 \times$ their 8	M1	oe
	76	A1ft	correct answer or ft their values in (a) and (b)
	Alternative method 2		
	$60 + 2 \times$ their 8	M1	oe
	76	A1ft	correct answer or ft their values in (b)
	Additional Guidance		
	For Alt 2, they may read off any cost for n minutes (from 1 to 5) and add on $(7 - n) \times$ their (b) for M1. A1 or A1ft may follow from their working		

Q	Answer	Mark	Comments
4	At least two points from (0, 1) (1, 3) (2, 5) and (3, 7)	M1	may be seen in a table of values or embedded in calculations may be implied by correct line $\pm\frac{1}{2}$ square tolerance
	Correct straight line between (1, 3) and (2, 5)	A1	$\pm\frac{1}{2}$ square tolerance
	[1.15, 1.25] from using the graph or 1.2	B1ft	oe ft x-coordinate of any line drawn that intersects the given line $\pm\frac{1}{2}$ square tolerance
	Additional Guidance		
	Ignore further work after B1 scored		
	1.2 with M0 scored 1.2 with two correct points seen but no or incorrect line		M0A0B1 M1A0B1
	For the A1, ignore incorrect lines unless used to read off for intersection and then only allow for the B1ft		
	Answer given as coordinates eg (1.2, 3.4)		B0

Q	Answer	Mark	Comments
5	**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

	Additional Guidance	
5 cont	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

Q	Answer	Mark	Comments
6(a)	$(x =)$ 10 and $(y =)$ 15	B2	B1 $(x =)$ 10 or $(y =)$ 15
	Additional Guidance		
	x: 0, 2, 4, 6, 8, 10 y: 3, 7, 11, 15, 19, 23		B2

Q	Answer	Mark	Comments
6(b)	Straight line from (0, 3) to (4, 11)	B2	B1 at least two of (0, 3), (2, 7) and (4, 11) plotted or straight line from (0, 3) to (2, 7) or straight line from (2, 7) to (4, 11) $\pm \frac{1}{2}$ square
	Additional Guidance		
	B2 or B1 may be awarded for a straight line without points plotted		
	Mark intention		
	Ignore line drawn after (4, 11)		
	Two points plotted with the same x-coordinate is choice unless the line is drawn through one of the points		

Q	Answer	Mark	Comments
6(c)	9	B1ft	correct or ft their line in (b) $\pm \frac{1}{2}$ square

Q	Answer	Mark	Comments
7(a)	All 4 points plotted correctly with a straight line joining them	B2	$\pm \frac{1}{2}$ square B1 at least two correct points plotted mark intention for straight line
	Additional Guidance		
	Ignore additional or incorrect points for B2 or B1		
	Ignore any line or curve extended outside the range		
	The correct position of the line implies correctly plotted points		

Q	Answer	Mark	Comments
7(b)	**Alternative method 1: uses the graph**		
	Vertical line from $x = 2.5$ to their straight line	M1	$\pm\frac{1}{2}$ square implied by mark at correct point on graph or on vertical axis
	their 8.5	A1ft	$\pm\frac{1}{2}$ square ft their straight line graph if at least B1 awarded in (a)
	Alternative method 2: substitutes into the equation		
	$3 \times 2.5 + 1$	M1	oe
	8.5	A1	
	Alternative method 3: uses values from the table		
	$\frac{7+10}{2}$	M1	oe eg $\frac{4+7+10+13}{4}$
	8.5	A1	
	Additional Guidance		
	Alternative method 1 – must have a line in part (a)		
	Alternative method 1 A vertical line from the x-axis does not need to be drawn if the reading from the graph is correct within tolerance for their graph		