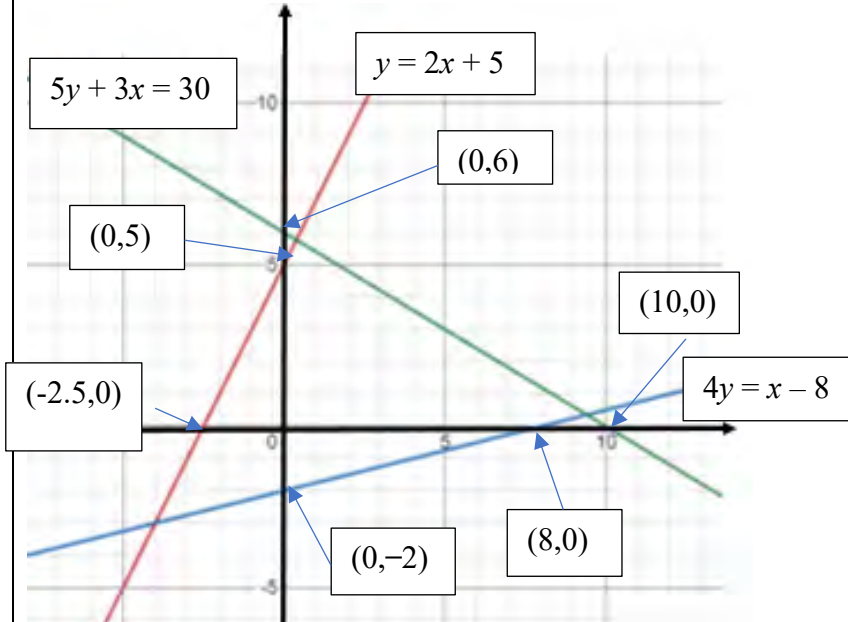
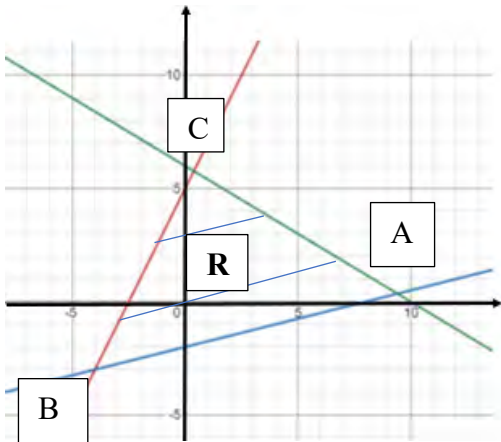


Question	Scheme	Marks																
5 (a)		B3																
(b)		B1																
(c)	<table><tr><td></td><td><i>A</i></td><td><i>B</i></td><td><i>C</i></td></tr><tr><td><i>x</i></td><td>9.4</td><td>− 4</td><td>0.4</td></tr><tr><td><i>y</i></td><td>0.4</td><td>− 3</td><td>5.8</td></tr><tr><td><i>P</i></td><td>$2 \times 9.4 - 5 \times 0.4$ $= 16.8$</td><td>$2 \times -4 - 5 \times -3$ $= 7$</td><td>$2 \times 0.4 - 5 \times 5.8$ $= -28.2$ [Exact value is] $\left[-\frac{365}{13} \approx -28.1 \right]$</td></tr></table> <p>Allow ± 0.1 on the coordinates in each case.</p>		<i>A</i>	<i>B</i>	<i>C</i>	<i>x</i>	9.4	− 4	0.4	<i>y</i>	0.4	− 3	5.8	<i>P</i>	$2 \times 9.4 - 5 \times 0.4$ $= 16.8$	$2 \times -4 - 5 \times -3$ $= 7$	$2 \times 0.4 - 5 \times 5.8$ $= -28.2$ [Exact value is] $\left[-\frac{365}{13} \approx -28.1 \right]$	M1 M1A1
	<i>A</i>	<i>B</i>	<i>C</i>															
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Total 7 marks																		

Part	Mark	Notes
The tolerance for all marks in this question is \pm half a small square.		
(a)	B1	For one of the lines correctly drawn to within tolerance (as a minimum, examiners should check intersections with axes, candidates do not need to mark these).
	B1	For two of the lines drawn to within tolerance (as a minimum, examiners should check intersections with axes, candidates do not need to mark these).
	B1	For all three lines correctly drawn to within tolerance (as a minimum, examiners should check intersections with axes, candidates do not need to mark these).
As a minimum, lines must intersect with other for marks in (a) and (b) to be awarded		
(b)	B1ft	For the correct enclosed region shaded in or out or for R clearly labelled. The ft mark can only be awarded if 3 distinct lines have been drawn and it's clear they've shaded on the correct 'side' for each of their lines. If there's no labelling and it's not clear which line is which, this mark cannot be awarded.
Part c of this question states "using your graph"..... Therefore solutions which obviously use exact coordinates of intersection points having used a graphical calculator or from working algebraically can only score M0 M1 A0.		
(c)	M1	For reading from the graph at least one point of intersection using their lines. The pair used for this and the next method mark must be within the tolerance of ± 0.1 of the values shown in the table. Any solutions which work out the values algebraically will not gain this mark or the final accuracy mark, but may gain the next method mark. Occasionally, students are working out the non-integer coordinates from algebra or from a calculator but reading $(-4, -3)$ from the graph and using this to find the value of P . In this case, we can apply bod (benefit of the doubt) and this mark can be awarded if subbed in to find the value of P .
	M1	For a correct substitution to find the value of P from at least one set of their coordinates of the point of intersection. This is not a dependent mark, so they can use any one of their pairs of values even if it doesn't fall in tolerance.
	A1	For the correct least value of -28.2 Allow a value between -28.9 and -27.5 so long as this follows through from their values. Do not allow a value out of range to be rounded to a value within range.