1.a)
$$M_{AB} = \frac{-4-1}{2-1} = \frac{-3}{3} = -1$$
 $y-3=1(\alpha-7)$ $y-3=\alpha-7$

a)
$$M_{AB} = \frac{-4-1}{2-1} = \frac{-3}{3} = -1$$

$$m_{h} = 1$$

b) mid_{Ac} = $\left(-\frac{1+7}{2}, -\frac{1+3}{2}\right) = \left(3, 1\right)$

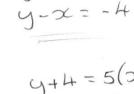
$$M = \frac{-4-1}{2-3} = \frac{-5}{-1} = 5$$

c)
$$y-x=-40$$

 $y-5x=-140$

4x = 10 x = 2.5

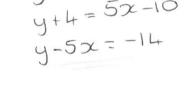
$$\frac{1}{3} = \frac{5}{1} = 5$$



$$y+4=5(x-2)$$
 $y+4=5x-10$

$$y+4=5(x-2)$$

 $y+4=5x-10$
 $y-5x=-14$



$$y+4=0x$$

$$y-5x=-14$$

$$y-2.5 = -4$$
 $y = -4+2.5$
 $y = -1.5$

Question			Generic scheme	Illustrative scheme	Max mark
1.	(p)		• ⁴ determine midpoint of AC	•4 (3,1)	3
			•5 determine gradient of median	• ⁵ 5	
			• ⁶ find equation	•6 $y = 5x - 14$	

Notes:

- 3. \bullet^5 is only available to candidates who use a midpoint to find a gradient.
- 4. 6 is only available as a consequence of using a 'midpoint' of AC and the point B.
- 5. At •6, accept any arrangement of a candidate's equation where constant terms have been simplified.
- 6. 6 is not available as a consequence of using a perpendicular gradient.

Commonly Observed Responses:

Commonly Observed Responses:										
	erpendicular bisector of AC	Candidate B - Altitude through B								
Midpoint _{AC} $(3,1)$		$m_{AC} = \frac{1}{2}$	• ¹ ^							
$m_{AC} = \frac{1}{2} \Longrightarrow m_{\perp} = \frac{1}{2}$	= −2 • ² x	$m_{\perp} = -2$	•² x							
y + 2x = 7	•³ <mark>✓ 2</mark>	y + 2x = 0	•³ ✓ 2							
For other perper	ndicular bisectors award 0/3									
Candidate C - Mo	_	Candidate D - Median through C								
$Midpoint_{BC}\bigg(\frac{9}{2}, -$	$\left(\frac{1}{2}\right)$	$Midpoint_{AB}\left(\frac{1}{2}, -\frac{5}{2}\right)$	• ¹ *							
$m_{AM} = \frac{1}{11}$	•² <mark>✓ 1</mark>	$m_{CM} = \frac{11}{13}$	•² <u>√ 1</u>							
11y = x - 10	•³ <mark>✓ 2</mark>	13y = 11x - 38	● ³ ✓ 2							
(c)	• ⁷ determine <i>x</i> -coordinate	•7 2.5		2						
	•8 determine <i>y</i> -coordinate	● ⁸ −1.5								

Notes:

7. For $\left(\frac{10}{4}, -\frac{6}{4}\right)$ award 1/2 (do not penalise repeated lack of simplification - *general marking principle* (l)).

Commonly Observed Responses: