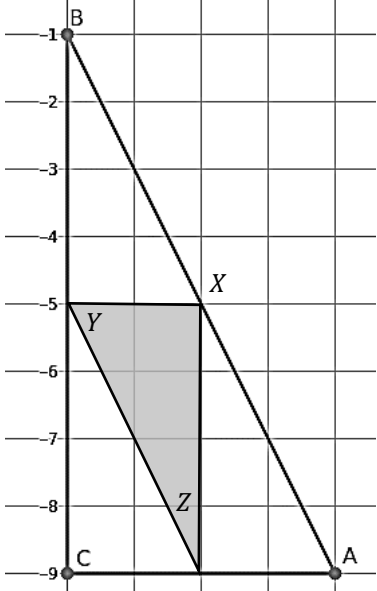


Co-ordinates and Ratios Mark Scheme:		
1(a)	(2, 3)	[1]
1(b)	(0, 0)	[1]
1(c)	(-0.5, 0.5)	[1]
2(a)	(11, 9)	[1]
2(b)	(-4.5, -12)	[1]
2(c)	(-3, -5)	[1]
3	(5, 0) and (3, -2)	[1] Correct coordinates for a square
	(1, 4) and (-1, 2)	[1] Correct coordinates for a square
4(a)	$17 - 2 = 15$ $13 - 4 = 9$	[1] Finding difference in <i>x and y</i>
	$15 \times \frac{2}{3} = 10$ ; $9 \times \frac{2}{3} = 6$	[1] Use of ratio to find the distance along the line
	$2 + 10 = 12$ $4 + 6 = 10$ (12, 10)	[1] Correct coordinates
4(b)	$-21 - 0 = -21$ $-25 - 10 = -35$	[1] Finding difference in <i>x and y</i>
	$-21 \times \frac{5}{7} = -15$ ; $-35 \times \frac{5}{7} = -25$	[1] Use of ratio to find the distance along the line
	$0 + (-15) = -15$ $10 + (-25) = -15$ (-15, -15)	[1] Correct coordinates
5(a)	$A(-4, -5)$ , $B(2, 4)$ $2 - (-4) = 6$ $4 - (-5) = 9$	[1] Distance along the line to C
	$6 \times \frac{1}{3} = 2$ ; $9 \times \frac{1}{3} = 3$ (-2, -2)	[1] Allow use of graph to find answer.
5(b)	$C(-2, -2)$ , $B(2, 4)$ $CX:XB = 1:3$ $-2 - 2 = -4$ ; $-2 - 4 = -6$	[1] Use of ratio to find the distance along the line
	$4 \times \frac{1}{4} = 1$ ; $6 \times \frac{1}{4} = 1.5$	[1] Use of ratio to find the distance along the line
	$-2 + 1 = -1$ $-2 + 1.5 = -0.5$ (-1, -0.5)	[1] Correct coordinates

Turn over ►

6(a)	<p>Change in <math>x = +20</math> Change in <math>y = -8</math></p> $20 \times \frac{3}{4} = 15$ $-8 \times \frac{3}{4} = -6$	[1] Distance along the line to F
	(15, -6)	[1] Coordinates of F
6(b)	$AG:GF:FB = 1:2:1$	[1] Use of ratio
6(c)	<p><math>A(0,0)</math> and <math>F(15, -6)</math> Change in <math>x = +15</math> Change in <math>y = -6</math></p> $15 \times \frac{1}{3} = 5$ $-6 \times \frac{1}{3} = -2$	[1] Distance along the line to G
	(5, -2)	[1] Coordinates of G
7	$X(5, -3)$	[1] Coordinates of X
	$Y(1, -7)$	[1] Coordinates of Y
	Crosses $Y$ -axis at $-8$ , $y$ -intercept $c = -8$	[1] Intercept
	$y = x - 8$	[1] Correct equation of the line
8		
	$X(2, -5)$	[1] Coordinates of X
	$Y(-5, 0)$	[1] Coordinates of Y
	$Z(2, -9)$	[1] Shape correctly drawn for final mark.

END