

**Q1.**  $AB$  is a line segment.

$A$  is the point  $(2, 5, 6)$ .

The midpoint of the line  $AB$  has coordinates  $(-1, -4, 2)$ .

Find the coordinates of point  $B$ .

( ..... , ..... , ..... )

**(Total 2 marks)**

M1.

Working	Answer	Mark	Additional Guidance
$(2, 5, 6)$ to $(-1, -4, 2)$ is $(-3, -9, -4)$ $(-1 - 3, -4 - 9, 2 - 6)$ $\frac{2+x}{2} = -1,$ or $\frac{5+y}{2} = -4, \frac{6+z}{2} = 2$	$(-4, -13, -2)$	2	<b>M1</b> for a complete correct method for at least 1 coordinate (could be implied by 2 out of 3 coordinates correct) <b>A1</b> cao
<b>Total for Question: 2 marks</b>			

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Even though the coordinates of the end point rather than the midpoint was required, 36% of the candidates provided fully correct answers. Others that had used the correct method (eg applying 3, 9, 4), managed to get a method mark for getting 2 of the 3 coordinates correct.

Frequently answers were given with no working shown. Some candidates just doubled  $(-1, -4, -2)$  to find answer whilst others gave  $(-3, -9, -4)$  or  $(3, 9, 4)$  as their final answer.