

## Contents

1	The Distance Between Points	2-4
	Points on Horizontal or Vertical Lines	2
	The Distance Formula	3-4
2	The Midpoint Formula	5-6
3	Gradients	7-9
4	Collinearity	10
5	Gradients of Perpendicular Lines	11-12
6	The Equation of a Straight Line	13-15
7	Medians	16
8	Altitudes	17
10	Perpendicular Bisectors	18
11	Intersection of Lines	19

## 1 The Distance Between Points

Points on Horizontal or Vertical Lines

1. Calculate the distance between the points  $(-7, -3)$  and  $(16, -3)$ .

## 1 The Distance Between Points

### The Distance Formula

2. A is the point  $(-2, 4)$  and  $B(3, 1)$ . Calculate the length of the line AB.

## 1 The Distance Between Points

### The Distance Formula

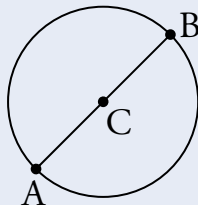
3. Calculate the distance between the points  $\left(\frac{1}{2}, -\frac{15}{4}\right)$  and  $(-1, -1)$ .

## 2 The Midpoint Formula

1. Calculate the midpoint of the points  $(1, -4)$  and  $(7, 8)$ .

## 2 The Midpoint Formula

2. In the diagram below,  $A(9, -2)$  lies on the circumference of the circle with centre  $C(17, 12)$ , and the line  $AB$  is the diameter of the circle. Find the coordinates of  $B$ .



### 3 Gradients

1. Calculate the gradient of the straight line shown in the diagram below.

