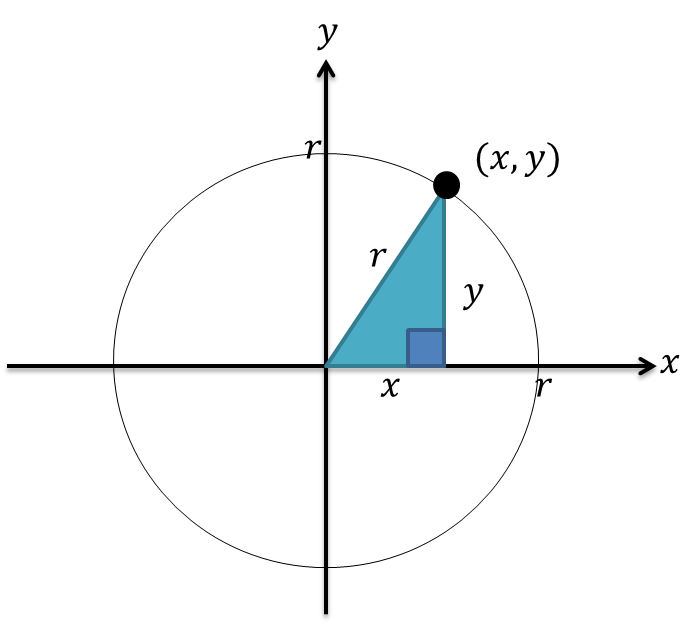
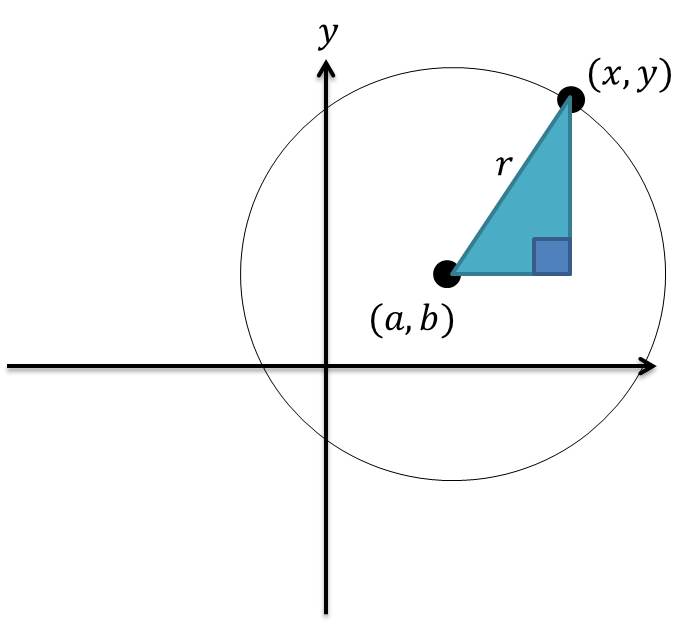
Equation of a circle



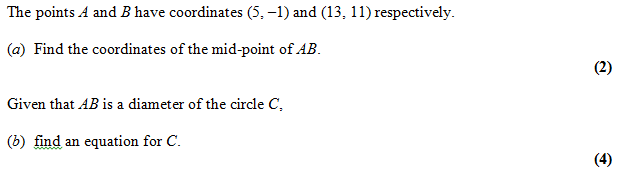
Examples:

1.

|  |  |  |
| --- | --- | --- |
| Centre | Radius | Equation |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

2. A line segment is the diameter of a circle, where and have coordinates and respectively. Determine the equation of the circle.

Test your understanding



Completing the Square

Example

Find the centre and radius of the circle with equation

Test your understanding



Extension:

1. [MAT 2009 1B] The point on the circle which is closest to the origin, is at what distance from the origin?

2. [MAT 2007 1D]

The point on the circle which is closest to the circle

has what coordinates?

3. [MAT 2016 1I] Let and be positive real numbers. If then the largest that can equal is what?

Give your expression in terms of and .

Exercise 6C Page 119 - 120