

# Core 1

## Coordinate Geometry

### Section 2: Curves and circles

#### Study Plan

##### Background

This section focuses on circles, looking at their equations and properties.

##### Detailed work plan



1. Read pages 60 – 61, which look at some common curves. You need to be able to recognise curves of this form.



2. As an introduction to circles, look at the [Circles dynamic spreadsheet](#) (you will find some instructions in the [Notes and Examples](#)). Also look at the Flash resources [Equation of a circle centre O](#) and [Equation of a circle centre \(a, b\)](#).



3. Read pages 61 – 66. It is important that you can find the centre and radius of a circle easily from its equation. Practice will help. There are some additional examples in the [Notes and Examples](#).



4. It is also important to learn the facts about a circle on pages 63 and 64 as these will help you find the quickest way to a solution for some of the questions. These properties are demonstrated in the Flash resources [Angle in a semicircle](#), [Perpendicular to a chord](#), and [Tangent and radius](#).



5. **Exercise 2E**  
Attempt questions 1, 2, 5\*, 7\*, 8, 10\*, 12, 13\*



6. For extra practice try the interactive questions [Finding the radius and centre of a circle](#) (circle equation in its simplest form), [Finding the radius and centre of a circle](#) (circle equation in its expanded form) and [Find the equation of a circle](#) (from its centre and one point on its circumference).



7. Read pages 68 – 72. Solving simultaneous equations is revisited here but with equations of curves as well as lines. Some slightly different techniques are required so you should read the examples on pages 69 to 71 to make sure that you understand these. There are more examples in the [Notes and Examples](#).



8. You can also look at the [Circles dynamic spreadsheet](#) (Circle and a line) and the Flash resources [Intersection of a curve and a line](#) and [Intersection of a circle and a line](#).

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## 9. Exercise 2F

Attempt questions 2, 3\*, 5\*, 7, 8\*, 10, 11

For extra practice try the interactive questions [Quadratic and line intersection](#) and [Circle and line intersection](#).