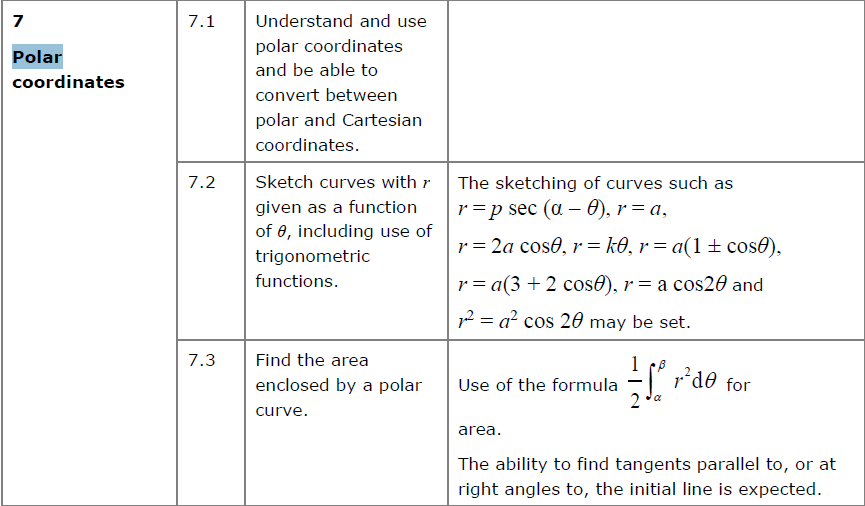
Core Pure 2

Polar Coordinates



Polar coordinates describe the location of a point in a 2D plane using the distance from the origin and anti-clockwise angle from the positive x-axis.

Recap: Converting to/ from polar coordinates

If:

Then:

And: (adjusted depending on quadrant)

|  |  |
| --- | --- |
| **Cartesian** | **Polar** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

The Polar Equation of a Curve:

We can express equations of curves in polar form. Sometimes we can convert the polar form to cartesian form but often equations are simpler when left in polar form.

Find a cartesian equation for the following curves:

Converting to Polar Form:

Converting to polar is easier, but the harder part is often finding how to simplify the expression. Know your double angle formulae!

Find polar equations for the following:

Test your understanding

Find the polar equation of a circle whose centre has polar coordinate (2, 0) with radius 2.

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