

| Topic | What students need to learn: | | |
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| | Content | Guidance | |
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| 7 Polar coordinates | 7.1 | Understand and use polar coordinates and be able to convert between polar and Cartesian coordinates. | |
| | 7.2 | Sketch curves with r given as a function of θ , including use of trigonometric functions. | The sketching of curves such as $r = p \sec(\alpha - \theta)$, $r = a$, $r = 2a \cos \theta$, $r = k\theta$, $r = a(1 \pm \cos \theta)$, $r = a(3 + 2 \cos \theta)$, $r = a \cos 2\theta$ and $r^2 = a^2 \cos 2\theta$ may be set. |
| | 7.3 | Find the area enclosed by a polar curve. | Use of the formula $\frac{1}{2} \int_{\alpha}^{\beta} r^2 d\theta$ for area. The ability to find tangents parallel to, or at right angles to, the initial line is expected. |