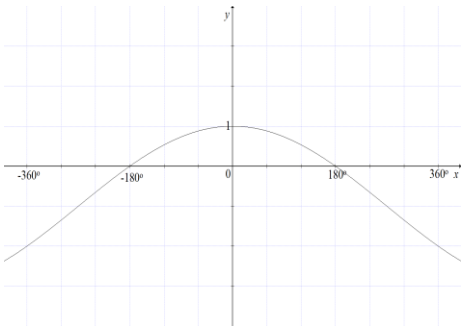
| Question | Answer | Marks | Partial Marks |
|---|---|---|---|
| 1(a) | $y=-\frac{1}{2}(x+2)(x+1)(x-5)$ | **B1** | For $-\frac{1}{2}$ |
| | | **B1** | For $(x+2)(x+1)(x-5)$ |
| 1(b) | $-2 \leqslant x \leqslant -1$ | **B1** | |
| | $x \geqslant 5$ | **B1** | |
| 2(a) | 1080° | **B1** | |
| 2(b) |   | **B1** | For correct shape and symmetry about the *y*-axis |
| | | **B1** | For correct *x*-intercepts |
| | | **B1** | For correct *y*-intercept |
| 3 | $\frac{dr}{dt}=5$ | **B1** | |
| | $\frac{dA}{dr}=2\pi r$ | **B1** | |
| | $\frac{dA}{dt}=\frac{dA}{dr}\times\frac{dr}{dt}$ leading to $\frac{dA}{dt}=10\pi r$ | **M1** | Use of the chain rule, may be implied by $5\times 6\pi$ |
| | $\frac{dA}{dt}=30\pi$ | **A1** | |