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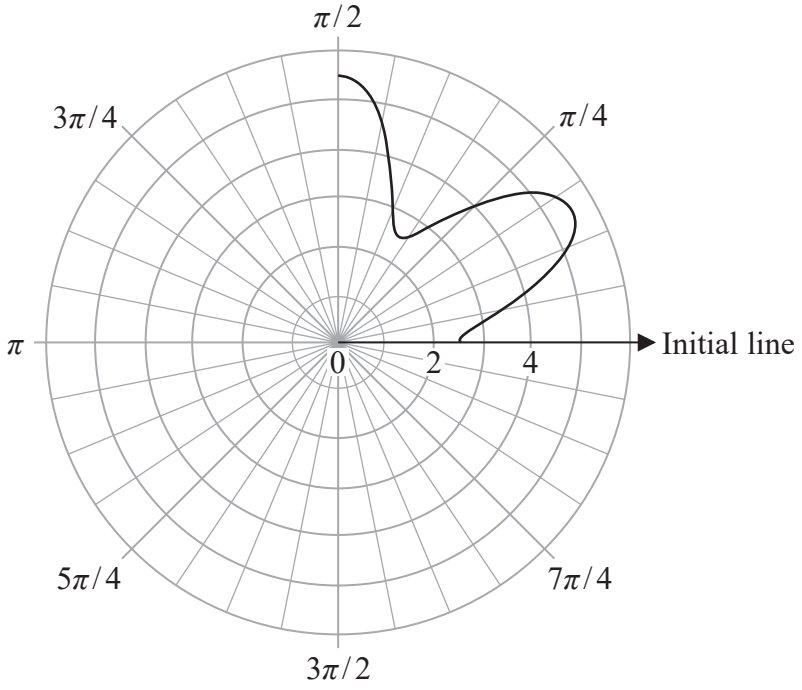


Figure 2

Figure 2 shows part of the curve with polar equation

$$r = 4 - \frac{3}{2}\cos 6\theta \qquad 0 \leqslant \theta < 2\pi$$

(a) Sketch, on the polar grid in Figure 2,

(i) the rest of the curve with equation $r = 4 - \frac{3}{2}\cos 6\theta \qquad 0 \leqslant \theta < 2\pi$

(ii) the polar curve with equation $r = 1 \qquad 0 \leqslant \theta < 2\pi$

A spare copy of the grid is given on page 15.

(3)

In part (b) you must show all stages of your working.

Solutions relying entirely on calculator technology are not acceptable.

(b) Determine the exact area enclosed between the two curves defined in part (a).

(7)

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Question 4 continued

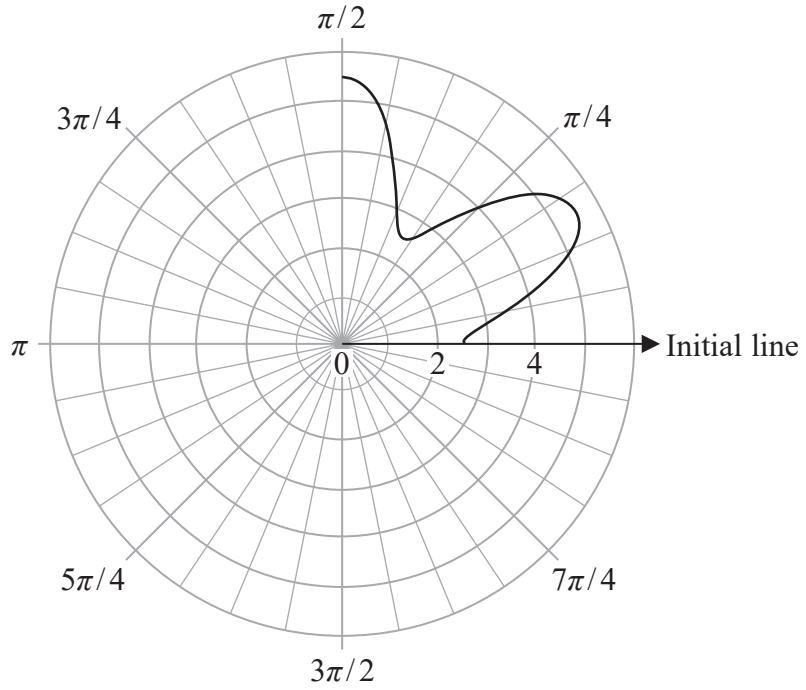
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Question 4 continued

Only use this grid if you need to redraw your answer to part (a)



Copy of Figure 2

(Total 10 marks)

Q4