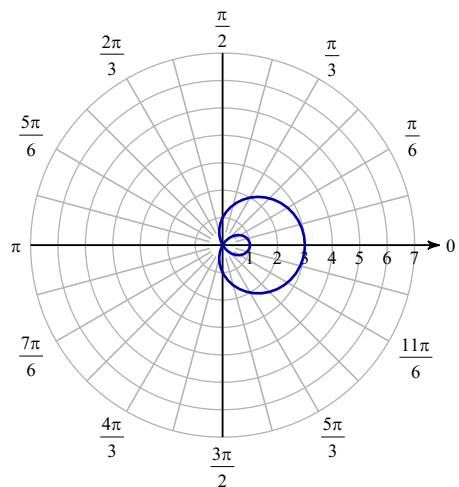


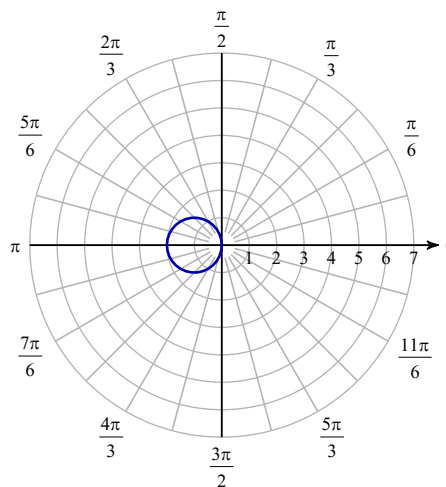
# Writing Equations from Graphs

Consider each polar graph. Classify the curve; and write the equation.

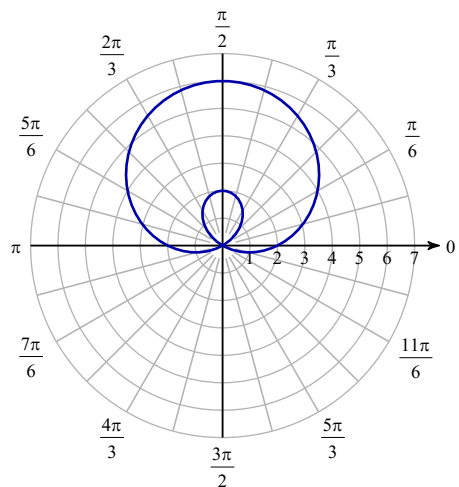
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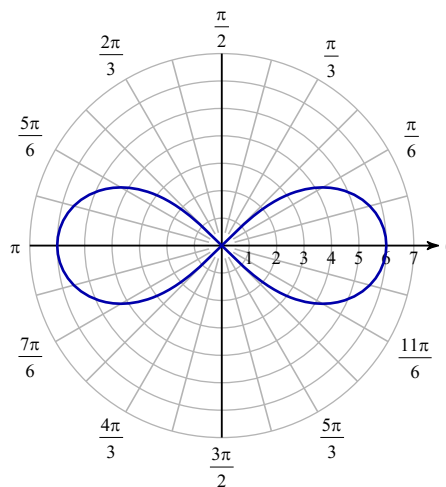
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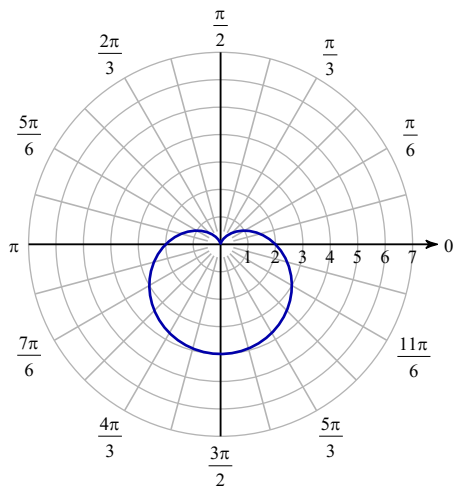
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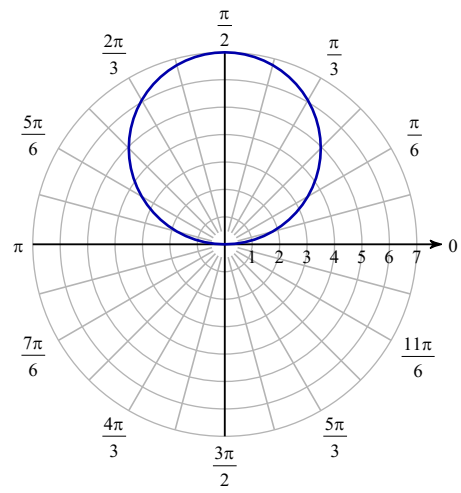
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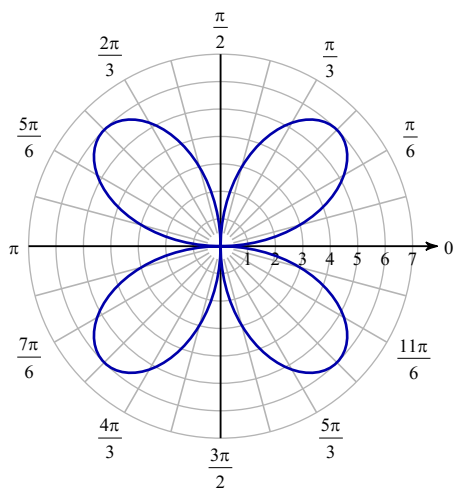
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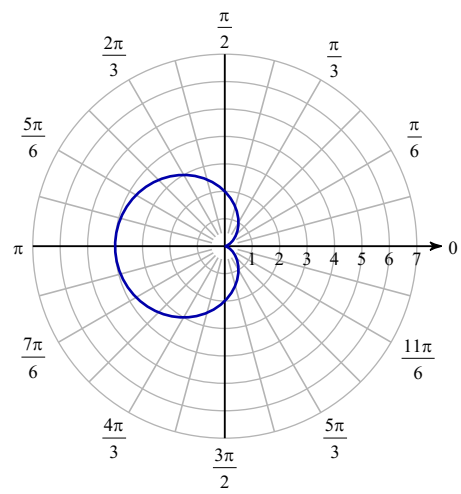
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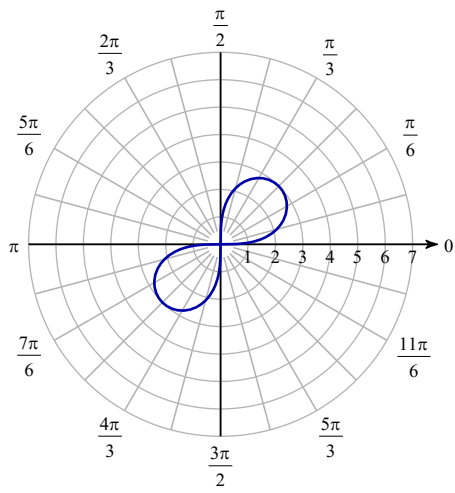
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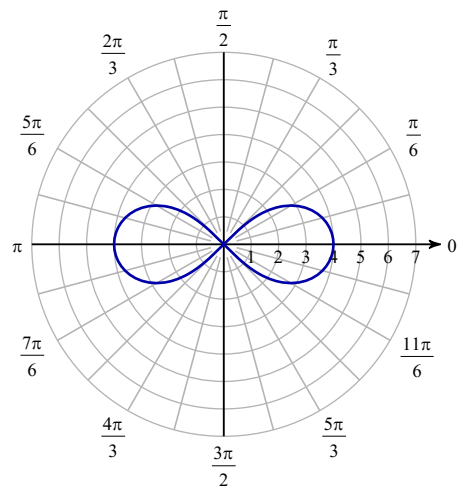
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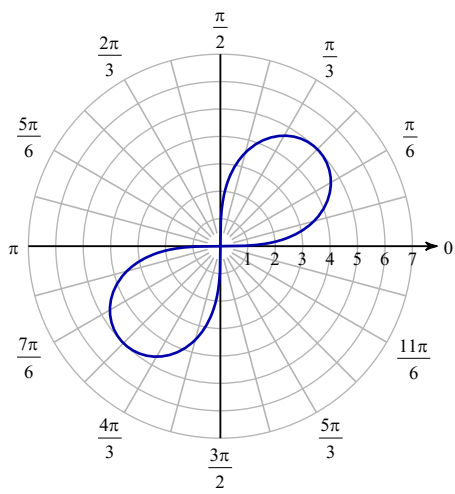
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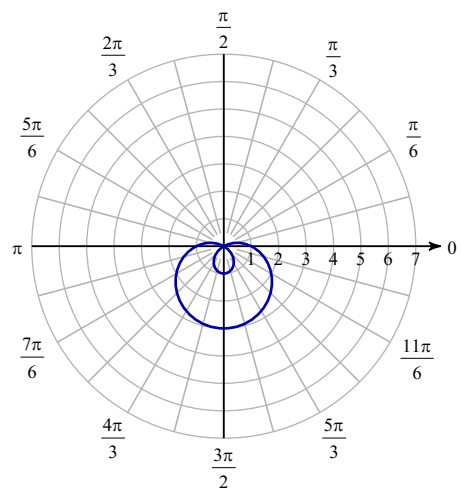
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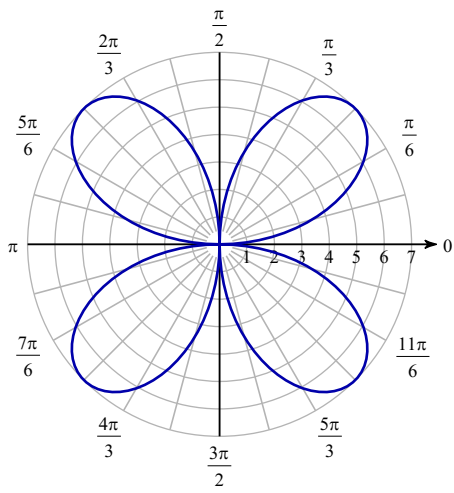
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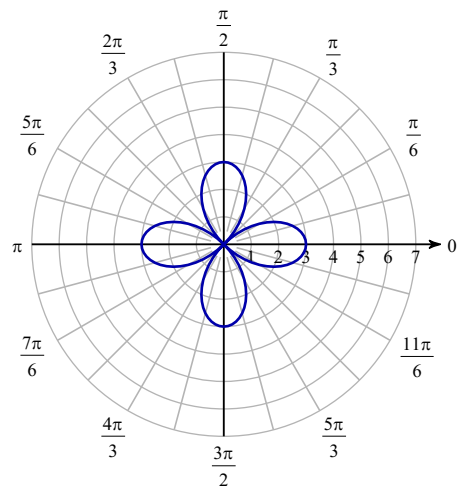
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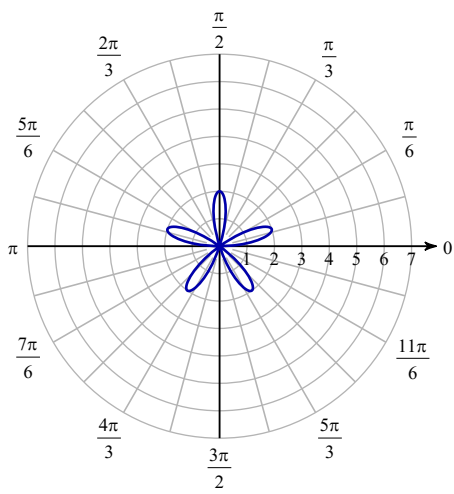
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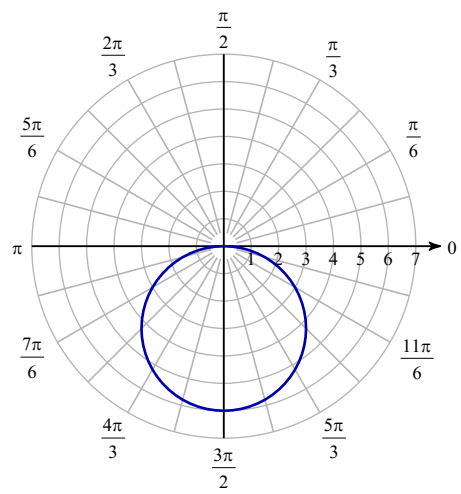
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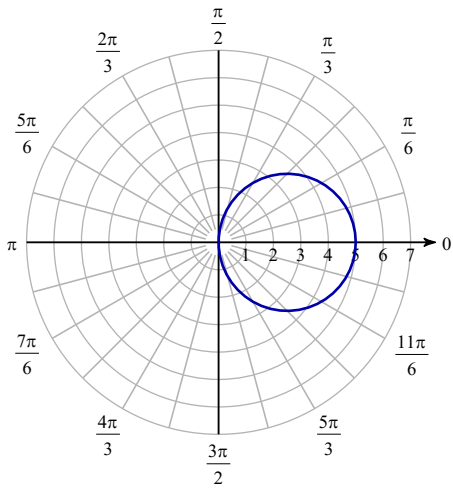
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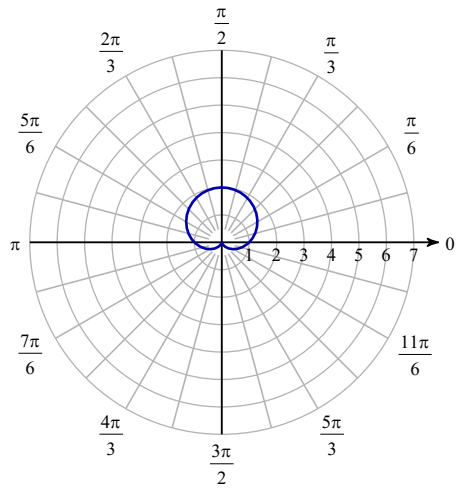
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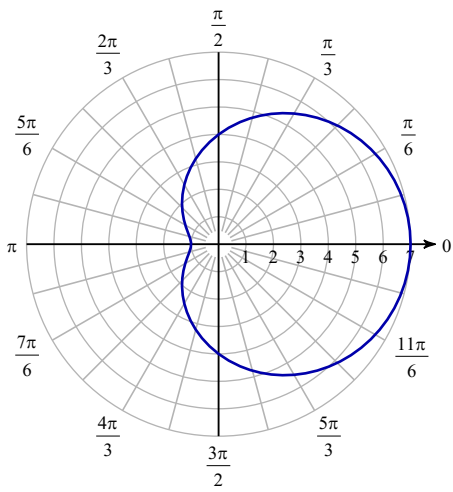
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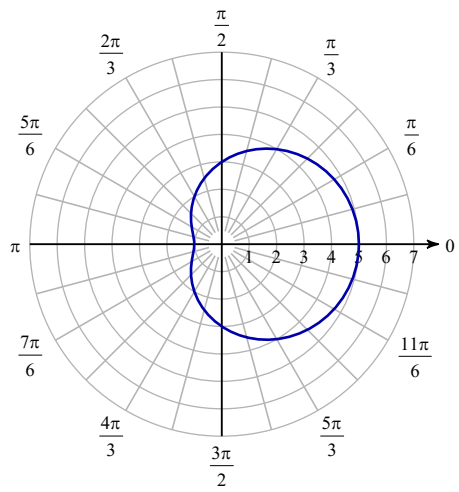
18)



19)



20)



## Answers to Writing Equations from Graphs

- |   |   |   |   |
|---|---|---|---|
| 1) Looped limaçon<br>$r = 1 + 2\cos \theta$     | 2) Circle<br>$r = -2\cos \theta$                | 3) Looped limaçon<br>$r = 2 + 4\sin \theta$   | 4) Lemniscate<br>$r^2 = 36\cos(2\theta)$        |
| 5) Cardioid (Limaçon)<br>$r = 2 - 2\sin \theta$ | 6) Circle<br>$r = 7\sin \theta$                 | 7) Rose<br>$r = 6\sin(2\theta)$               | 8) Cardioid (Limaçon)<br>$r = 2 - 2\cos \theta$ |
| 9) Lemniscate<br>$r^2 = 9\sin(2\theta)$         | 10) Lemniscate<br>$r^2 = 16\cos(2\theta)$       | 11) Lemniscate<br>$r^2 = 25\sin(2\theta)$     | 12) Looped limaçon<br>$r = 1 - 2\sin \theta$    |
| 13) Rose<br>$r = 7\sin(2\theta)$                | 14) Rose<br>$r = 3\cos(2\theta)$                | 15) Rose<br>$r = 2\sin(5\theta)$              | 16) Circle<br>$r = -6\sin \theta$               |
| 17) Circle<br>$r = 5\cos \theta$                | 18) Cardioid (Limaçon)<br>$r = 1 + \sin \theta$ | 19) Dimpled limaçon<br>$r = 4 + 3\cos \theta$ |   |
| 20) Dimpled limaçon<br>$r = 3 + 2\cos \theta$   |   |   |   |