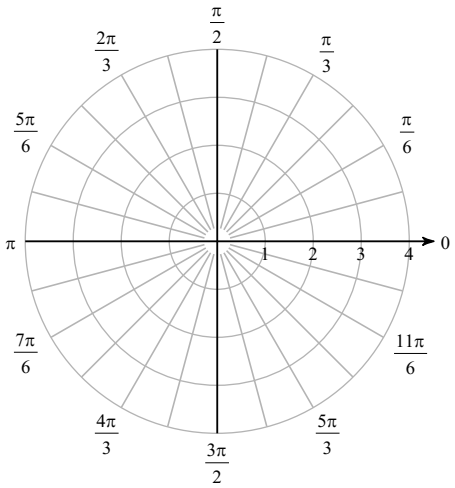
AP Calculus BC Name_____

Polar Basic and Graphing Review Packet #2

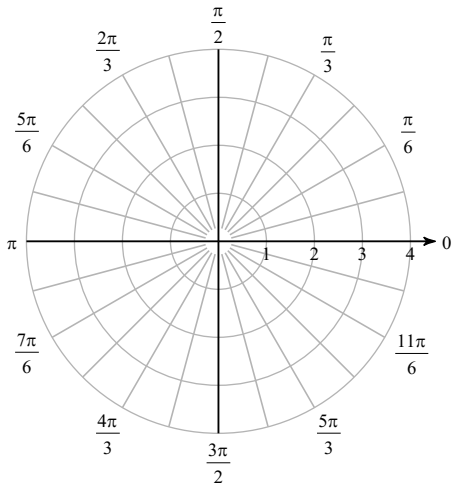
Date_____ Block____

Plot the point with the given polar coordinates.

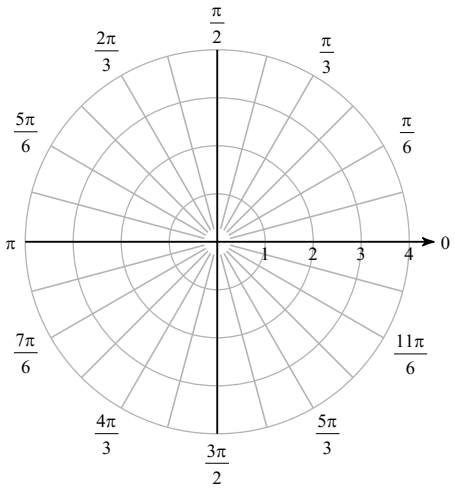
1) $\left(-1, \frac{3\pi}{4}\right)$



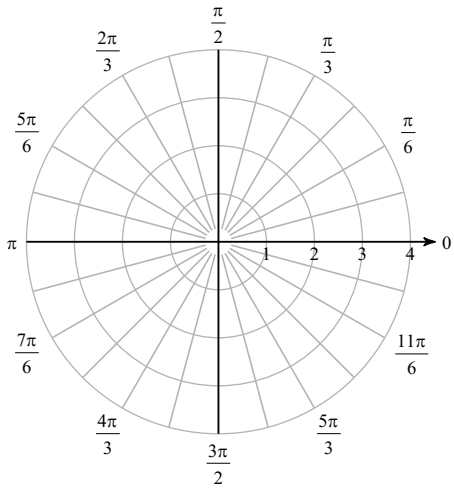
2) $\left(-4, -\frac{5\pi}{6}\right)$



3) $\left(-2, -\frac{2\pi}{3}\right)$

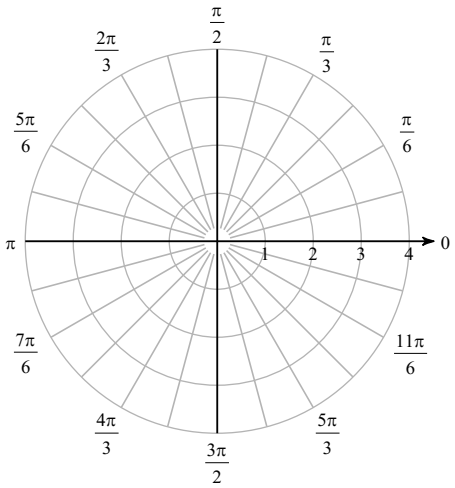


4) $\left(-1, -\frac{\pi}{3}\right)$

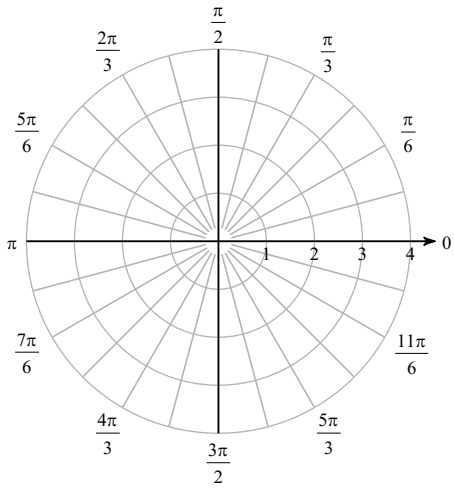


Find all pairs of polar coordinates that describe the same point as the provided polar coordinates.

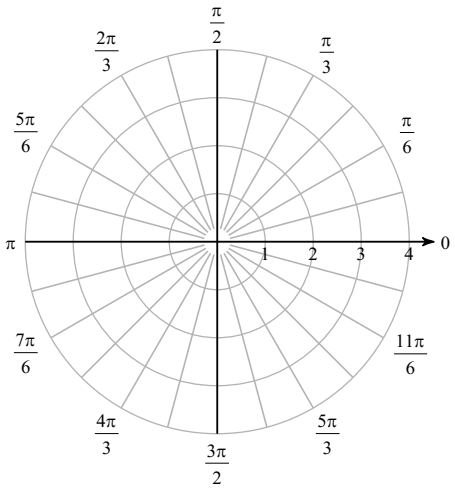
5) $\left(-4, \frac{\pi}{12}\right)$



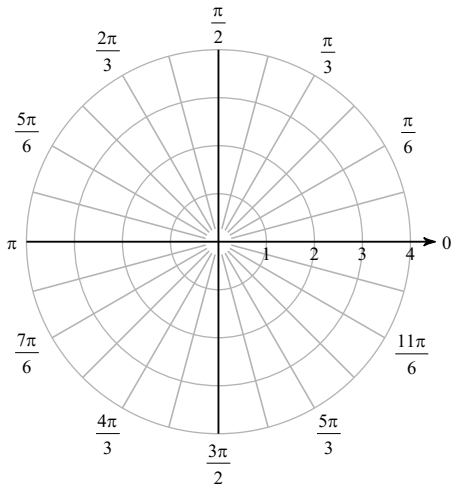
6) $\left(2, -\frac{3\pi}{2}\right)$



7) $\left(-4, -\frac{7\pi}{6}\right)$



8) $\left(2, \frac{23\pi}{12}\right)$



Convert each pair of polar coordinates to rectangular coordinates.

9) $\left(4, -\frac{\pi}{4}\right)$

10) $\left(-1, -\frac{7\pi}{6}\right)$

11) $\left(-1, -\frac{11\pi}{6}\right)$

12) $\left(1, \frac{7\pi}{4}\right)$

Convert each pair of rectangular coordinates to polar coordinates where $r > 0$ and $0 \le \theta < 2\pi$.

13) $(3, 0)$

14) $(2, 2\sqrt{3})$

15) $\left(-\frac{\sqrt{2}}{2}, \frac{\sqrt{2}}{2}\right)$

16) $\left(\frac{1}{2}, -\frac{\sqrt{3}}{2}\right)$

Convert each equation from rectangular to polar form.

17) $y = 5x$

18) $x^2 + (y - 1)^2 = 1$

19) $y = \frac{x^2}{5}$

20) $y = 3x$

Convert each equation from polar to rectangular form.

21) $r = \tan\theta\sec\theta$

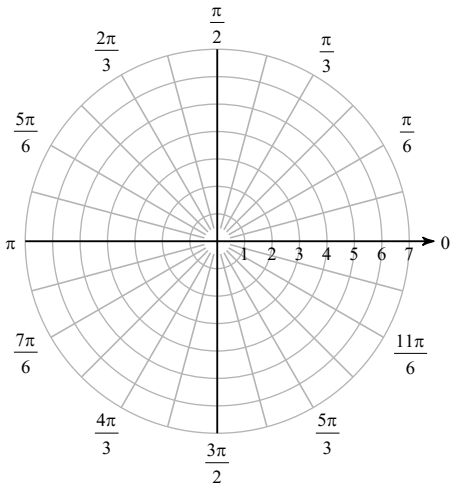
22) $\theta = \frac{5\pi}{6}$

23) $r = -6\cos\theta + 2\sin\theta$

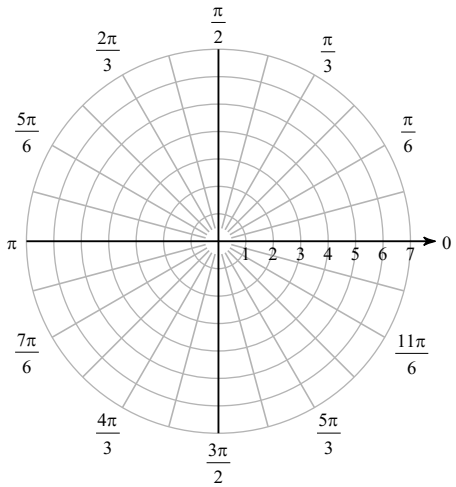
24) $r = 4\tan\theta\sec\theta$

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

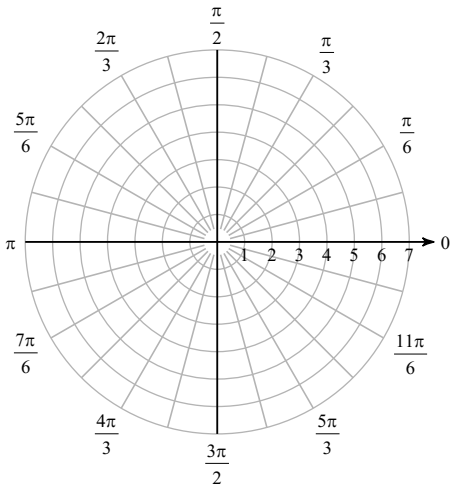
25) $r = 5$



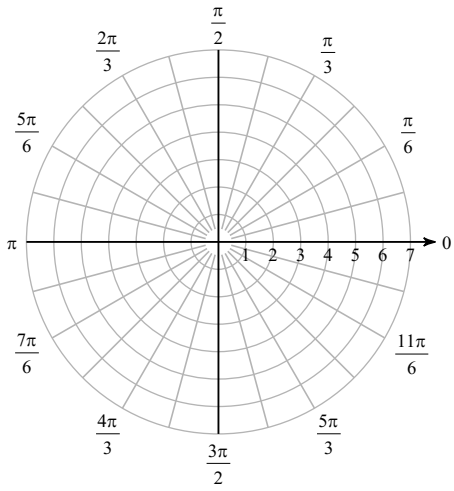
26) $r = 6$



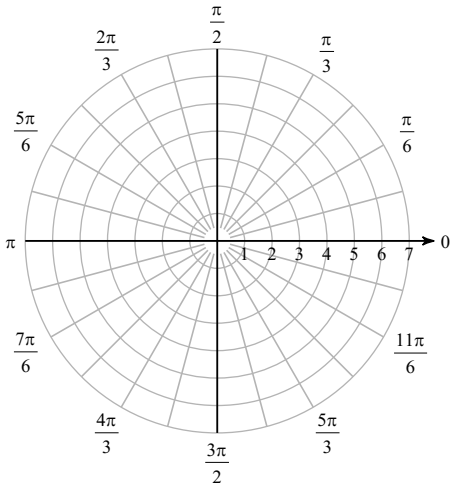
27) $r = 7\cos\theta$



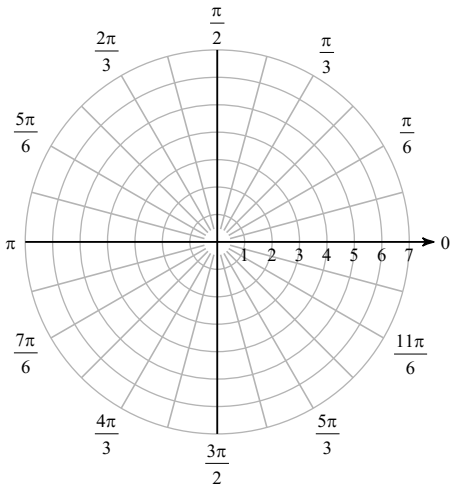
28) $r = -6\sin\theta$



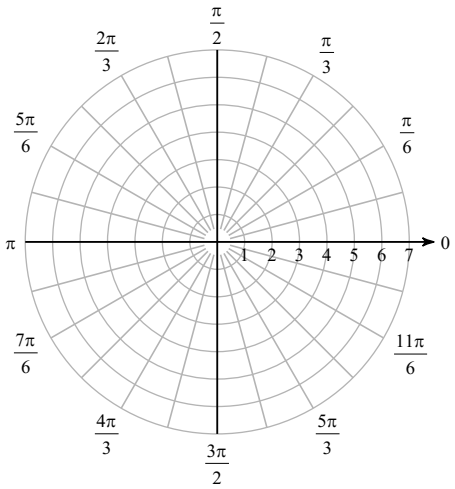
29) $r = 4 + 3\sin\theta$



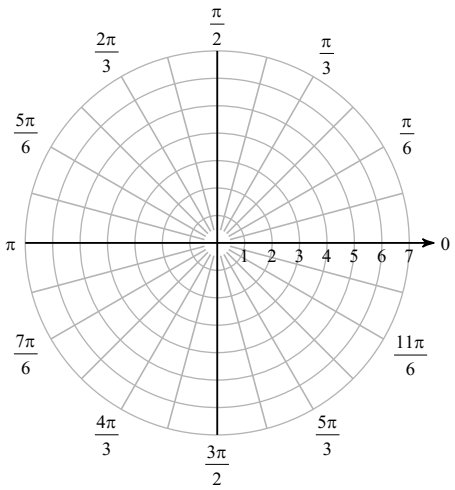
30) $r = 2 + 2\sin\theta$



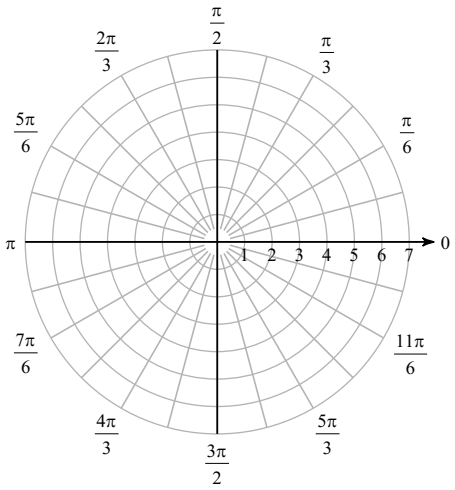
31) $r = 3 - 2\cos\theta$



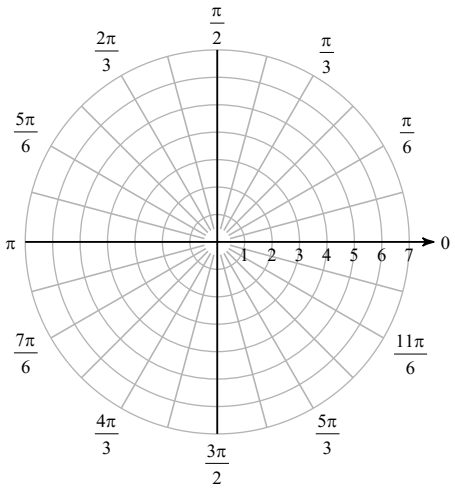
32) $r = 2 + 4\cos\theta$



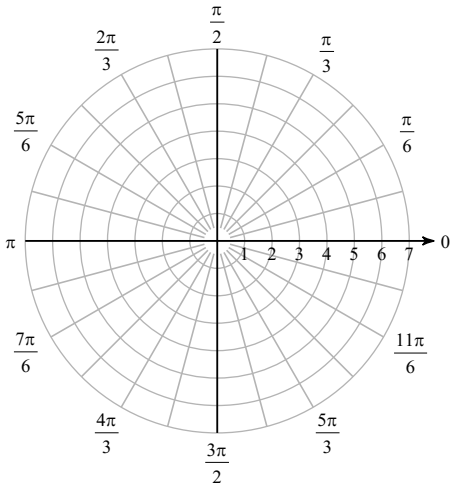
33) $r = 3 - 3\cos\theta$



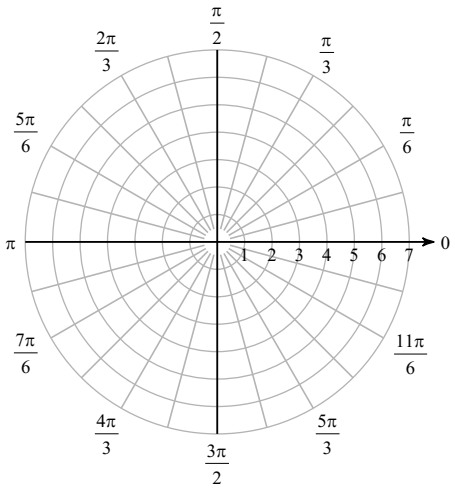
34) $r = 2 + 4\sin\theta$



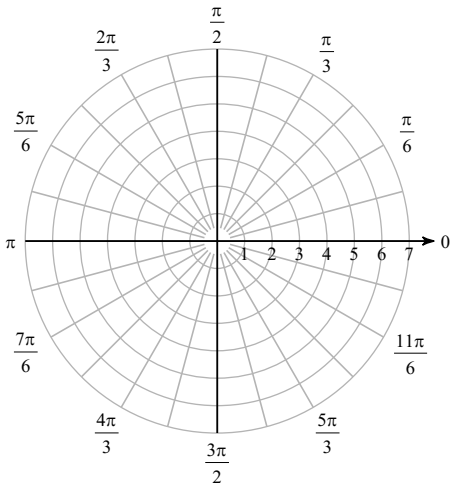
35) $r = 2 + \cos\theta$



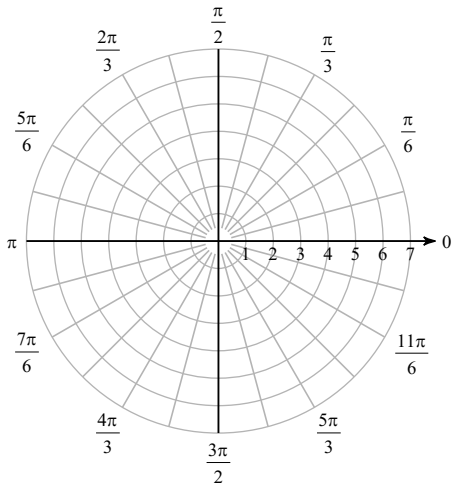
36) $r = 5 - \cos\theta$



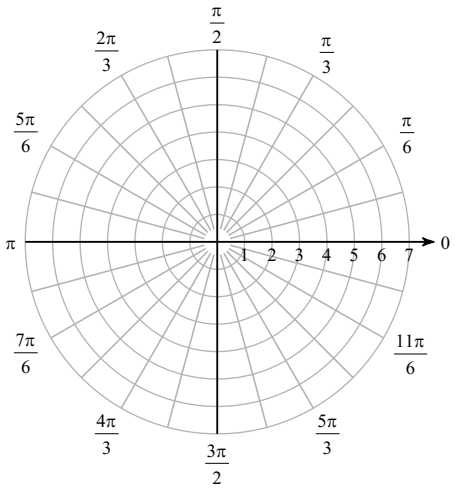
37) $r^2 = 25\sin(2\theta)$



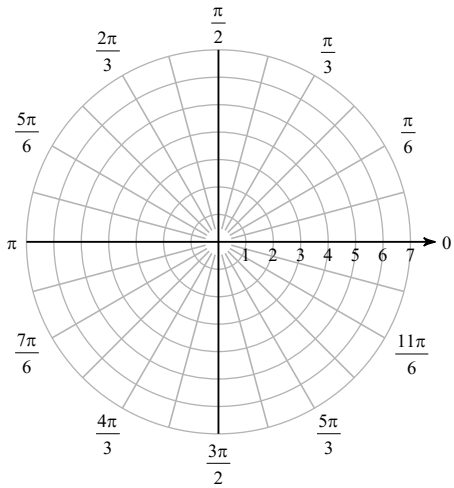
38) $r^2 = 36\cos(2\theta)$



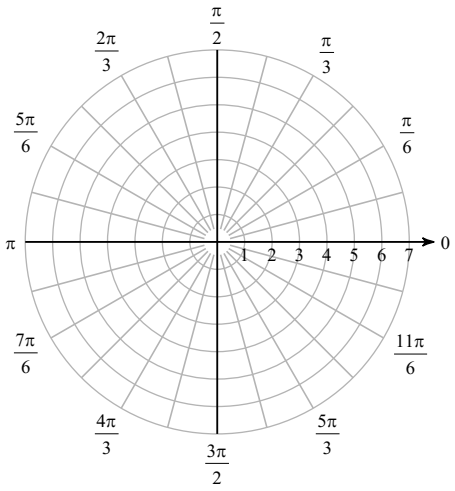
39) $r = 5\cos(3\theta)$



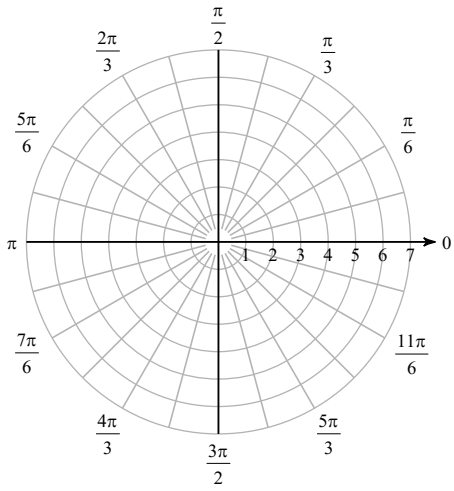
40) $r = 2\cos(2\theta)$



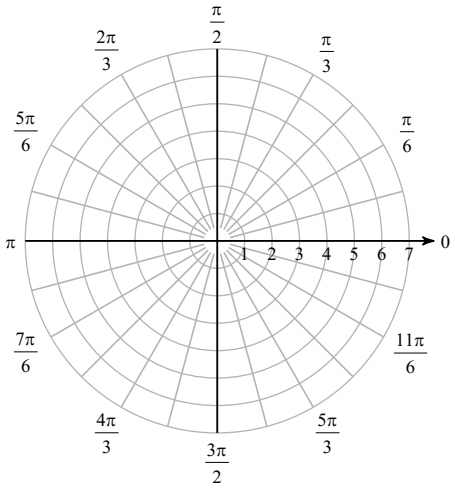
41) $r = 4\sin(3\theta)$



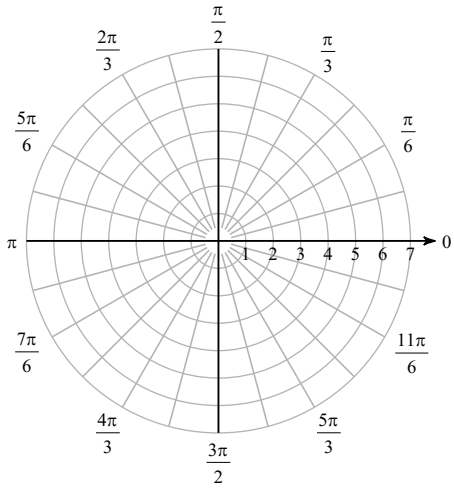
42) $r = 5\sin(2\theta)$



43) $r = 4\sin(5\theta)$



44) $r = 4\cos(5\theta)$



45) $r = 3\theta,\ \theta > 0$