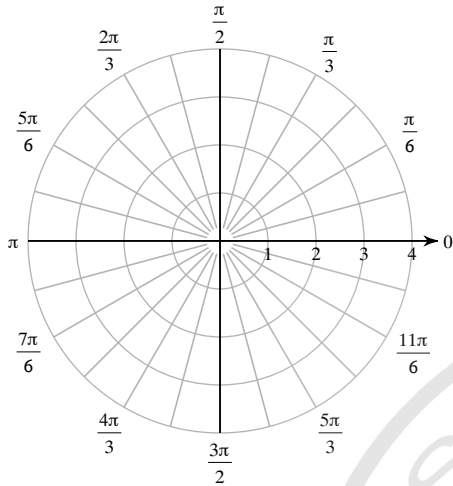


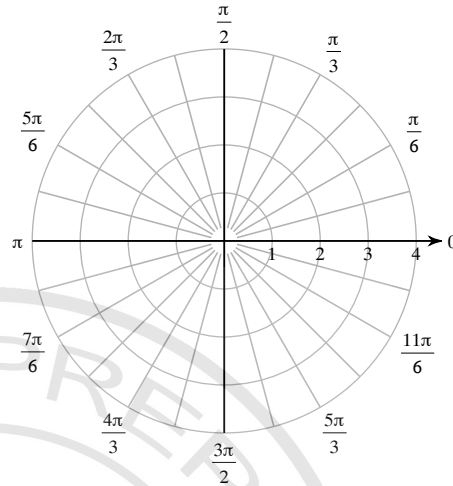
Assignment-Polar Coordinate

Plot the point with the given polar coordinates.

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

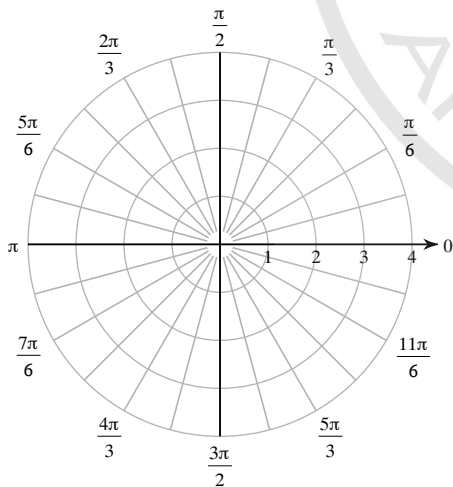


2)  $\left(1, \frac{\pi}{12}\right)$

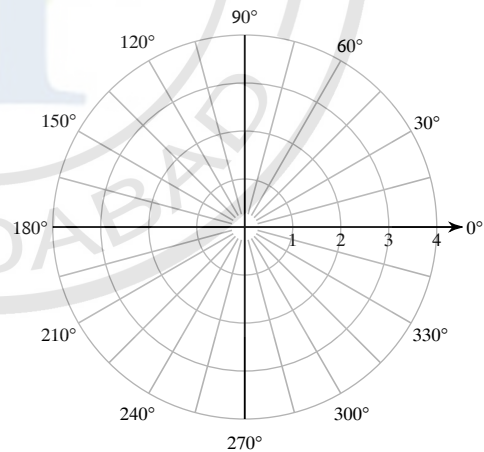


Find all pairs of polar coordinates that describe the same point as the provided polar coordinates.

3)  $\left(1, \frac{17\pi}{12}\right)$

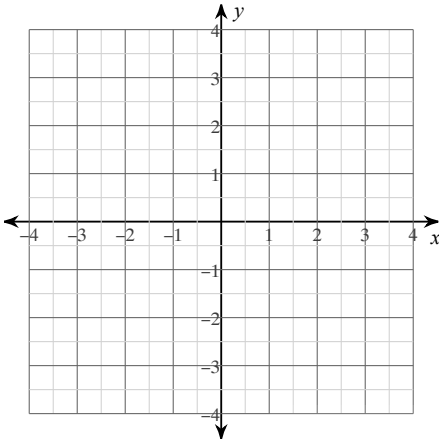


4)  $(2, 15^\circ)$

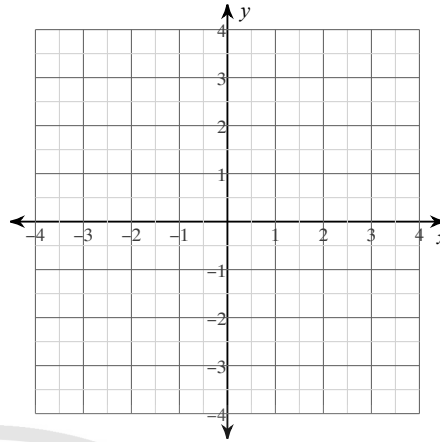


Convert each pair of polar coordinates to rectangular coordinates.

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

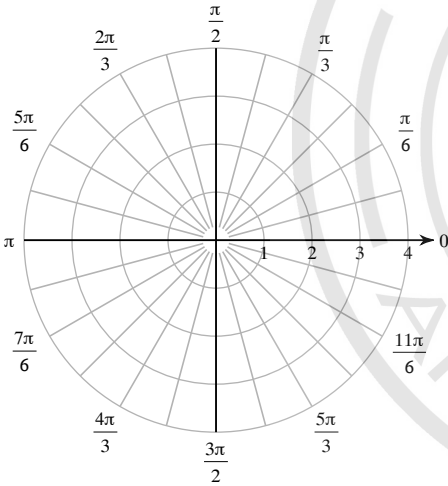


6)  $\left(2, \frac{4\pi}{3}\right)$

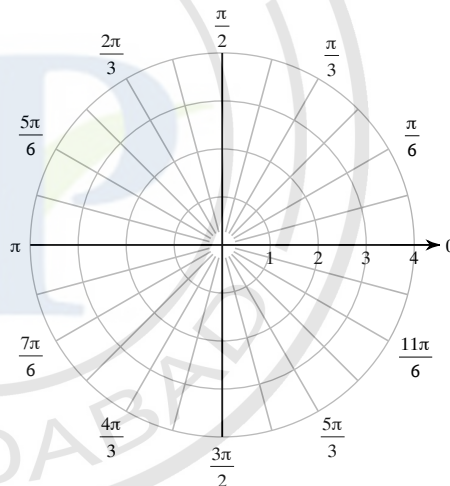


Convert each pair of rectangular coordinates to polar coordinates where  $r > 0$  and  $0 \leq \theta < 2\pi$ .

7)  $(0, 2)$

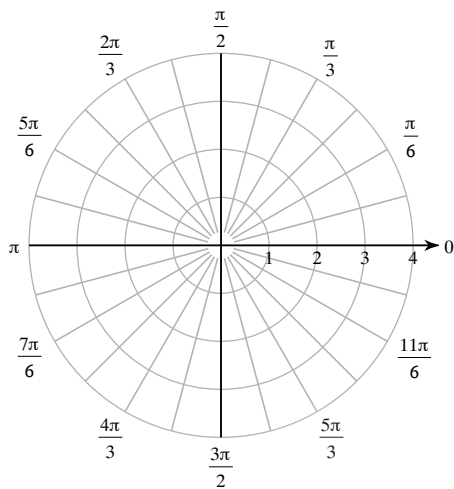


8)  $(-\sqrt{3}, 1)$

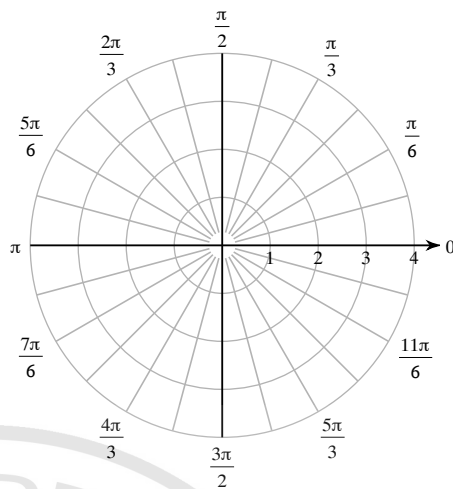


Two points are specified using polar coordinates. Find the distance between the points.

9)  $\left(4, \frac{\pi}{6}\right), \left(4, \frac{11\pi}{12}\right)$

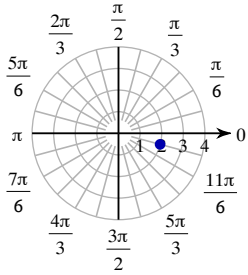


10)  $(2, \pi), \left(1, \frac{3\pi}{2}\right)$

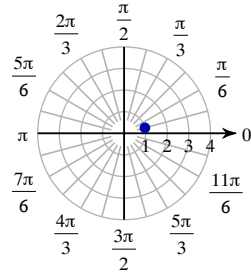


## Answers to Assignment-Polar Coordinate

1)



2)



3)  $\left(1, \frac{17\pi}{12} + 2n\pi\right)$  and  $\left(-1, \frac{17\pi}{12} + (2n + 1)\pi\right)$   
 where  $n$  is an integer

4)  $(2, 15^\circ + 360n^\circ)$  and  $(-2, 195^\circ + 360n^\circ)$   
 where  $n$  is an integer

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

6)  $(-1, -\sqrt{3})$

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

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

9)  $4\sqrt{2} + \sqrt{2} \approx 7.391$

10)  $\sqrt{5} \approx 2.236$

