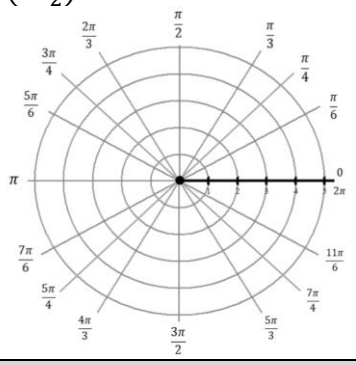
3.13 Trigonometric and Polar Coordinates

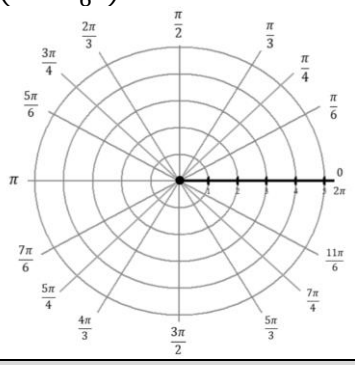
AP Precalculus Name: _____ **CA #1**

Plot the following polar points.

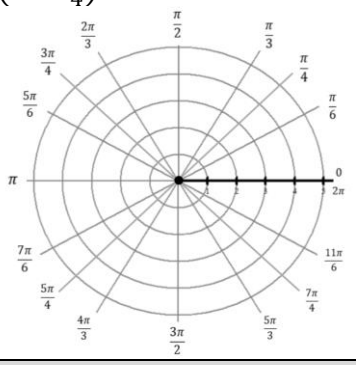
1. $\left(3, \frac{\pi}{2}\right)$



2. $\left(-4, \frac{11\pi}{6}\right)$



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



Convert the polar coordinates to rectangular coordinates.

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

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

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

Convert the rectangular coordinates to polar coordinates where $0 \leq \theta \leq 2\pi$.

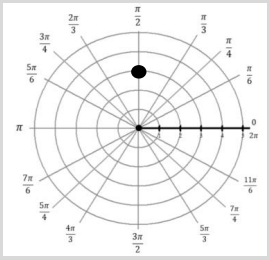
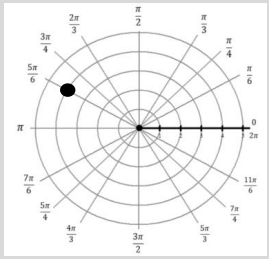
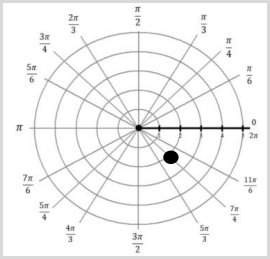
7. $(-2, 4)$

8. $(-3, -4)$

9. $(4, -5)$

Convert rectangular complex numbers to polar form.		
10. $3-4i$	11. $-3+5i$	12. $-3-2i$
Convert polar complex numbers to rectangular form.		
13. $4\left[\cos\left(\frac{3\pi}{4}\right)+i\sin\left(\frac{3\pi}{4}\right)\right]$	14. $6\left[\cos\left(\frac{\pi}{6}\right)+i\sin\left(\frac{\pi}{6}\right)\right]$	15. $5\cos\left(\frac{4\pi}{3}\right)+5i\sin\left(\frac{4\pi}{3}\right)$

Answers to 3.13 CA #1

1. 	2. 	3. 
4. $(3, 3\sqrt{3})$	5. $(-\sqrt{2}, -\sqrt{2})$	6. $\left(\frac{5\sqrt{3}}{2}, -\frac{5}{2}\right)$
7. $(2\sqrt{5}, 2.034)$	8. $(5, 4.068)$	9. $(\sqrt{41}, -0.896)$
10. $5[\cos(-0.927)+i\sin(-0.927)]$	11. $\sqrt{34}[\cos(2.111)+i\sin(2.111)]$	12. $\sqrt{13}[\cos(3.729)+i\sin(3.729)]$
13. $-2\sqrt{2}+2i\sqrt{2}$	14. $3\sqrt{3}+3i$	15. $-\frac{5}{2}-\frac{5i\sqrt{3}}{2}$