

Polar Conversions

name:

Convert each point to its equivalent form.

[1] rectangular:  $\left(\frac{1}{2}, \frac{\sqrt{3}}{2}\right)$  polar:

[2] rectangular:  $(-5, -5)$  polar:

[3] rectangular:                      polar:  $\left(-2, -\frac{\pi}{4}\right)$

[4] rectangular:                      polar:  $\left(3, -\frac{5\pi}{6}\right)$

[5] rectangular:  $\left(-\frac{\sqrt{3}}{2}, \frac{1}{2}\right)$  polar:

[6] rectangular:  $(10, 0)$  polar:

[7] rectangular:                      polar:  $(-1, \pi)$

[8] rectangular:                      polar:  $\left(1, \frac{\pi}{3}\right)$

Complete the table by filling in the equivalent forms.

	Cartesian form	Cartesian Coordinates	Polar Coordinates	Modulus-argument form
Example	$2i$	$(0, 2)$	$\left(2, \frac{\pi}{2}\right)$	$2\left(\cos \frac{\pi}{2} + i \sin \frac{\pi}{2}\right)$
[9]	$-3i$			
[10]		$(1, 1)$		
[11]			$\left(4, \frac{2\pi}{3}\right)$	
[12]				$\sqrt{2}\left(\cos \frac{5\pi}{4} + i \sin \frac{5\pi}{4}\right)$
[13]	$-\frac{\sqrt{3}}{2} + \frac{1}{2}i$			
[14]		$(-5, 0)$		
[15]			$\left(1, -\frac{11\pi}{6}\right)$	
[16]				$\sqrt{3}\left(\cos \frac{4\pi}{3} + i \sin \frac{4\pi}{3}\right)$