

Review of Polars

Date _____

Period _____

Convert numbers in rectangular form to polar form and numbers in polar form to rectangular form.

1) $3\sqrt{2} - 3i\sqrt{2}$

2) $\sqrt{3} + i$

3) $-3i$

4) $6(\cos 270 + i\sin 270)$

Find the absolute value.

5) $3(\cos 330 + i\sin 330)$

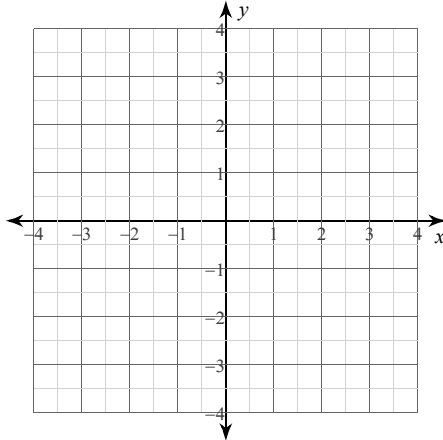
6) $-6 - 4i$

7) $2(\cos 150 + i\sin 150)$

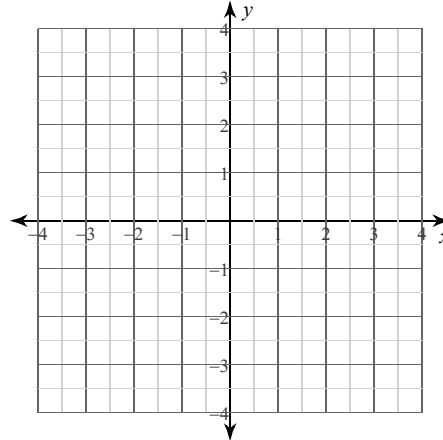
8) $-1 - i\sqrt{3}$

Convert each pair of polar coordinates to rectangular coordinates.

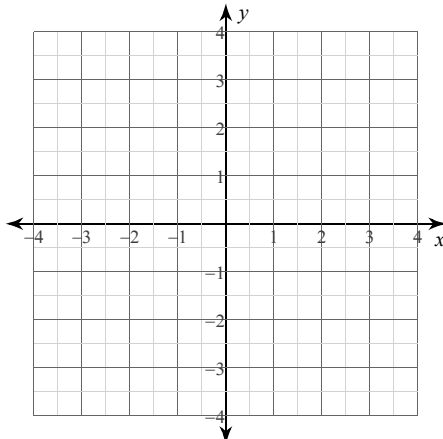
9) $(2, 180^\circ)$



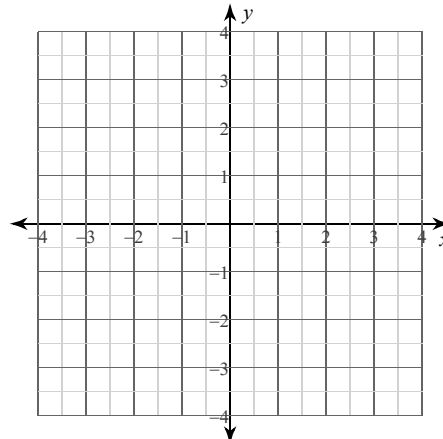
10) $(-4, 240^\circ)$



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

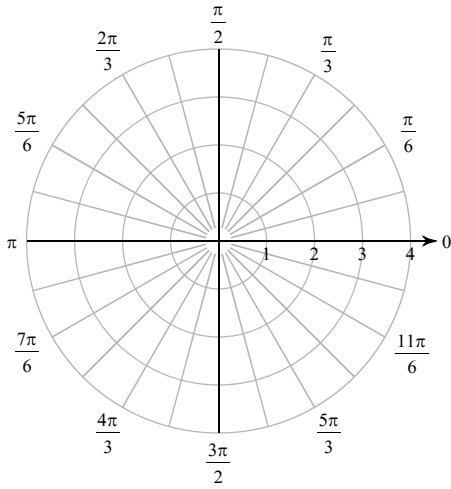


12) $\left(2, -\frac{2\pi}{3}\right)$

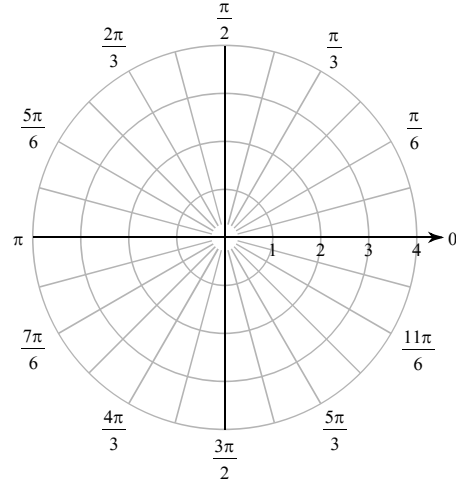


Convert each pair of rectangular coordinates to polar coordinates where $r > 0$ and $0 \leq \theta < 2\pi$.

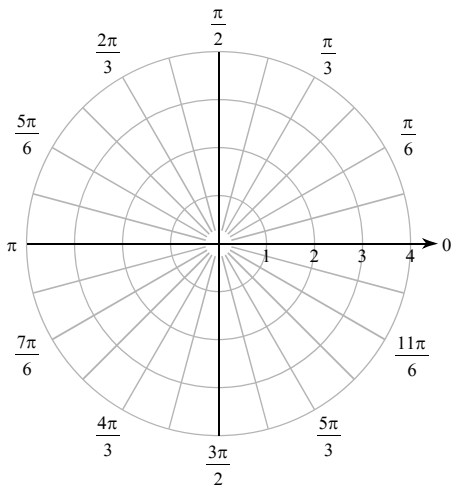
13) $\left(-\frac{3\sqrt{3}}{2}, -\frac{3}{2}\right)$



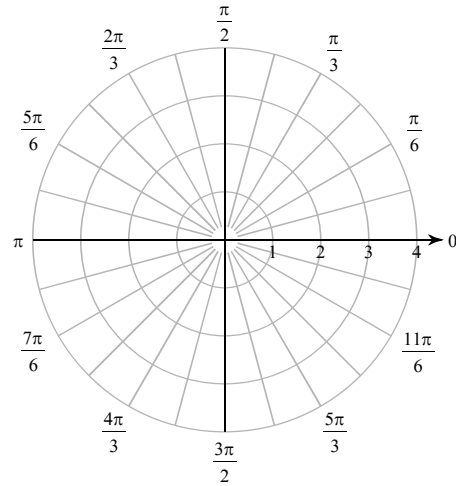
14) $(-\sqrt{2}, \sqrt{2})$



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



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



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

17) $(4, 225^\circ)$

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

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Convert numbers in rectangular form to polar form and numbers in polar form to rectangular form.

$$1) 3\sqrt{2} - 3i\sqrt{2} \quad 6\left(\cos \frac{7\pi}{4} + i\sin \frac{7\pi}{4}\right)$$

$$3) -3i \quad 3(\cos 270 + i\sin 270)$$

Find the absolute value.

$$5) 3(\cos 330 + i\sin 330)$$

3

$$7) 2(\cos 150 + i\sin 150)$$

2

$$2) \sqrt{3} + i \quad 2(\cos 30 + i\sin 30)$$

$$4) 6(\cos 270 + i\sin 270) \quad -6i$$

$$6) -6 - 4i$$

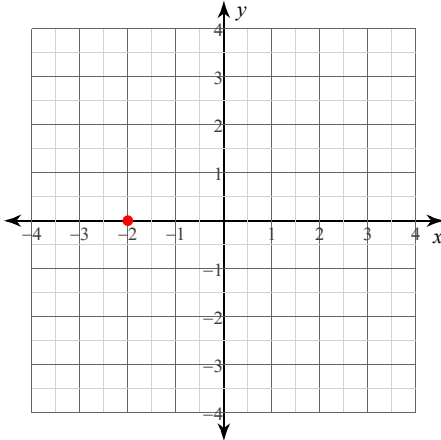
$2\sqrt{13}$

$$8) -1 - i\sqrt{3}$$

2

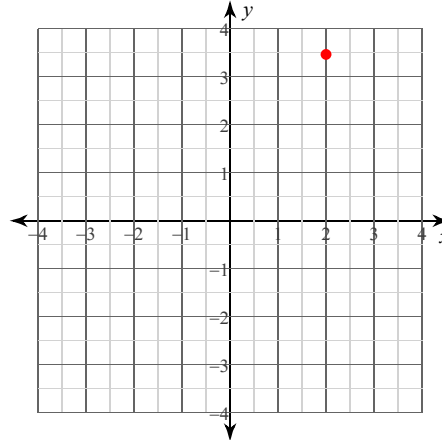
Convert each pair of polar coordinates to rectangular coordinates.

$$9) (2, 180^\circ)$$



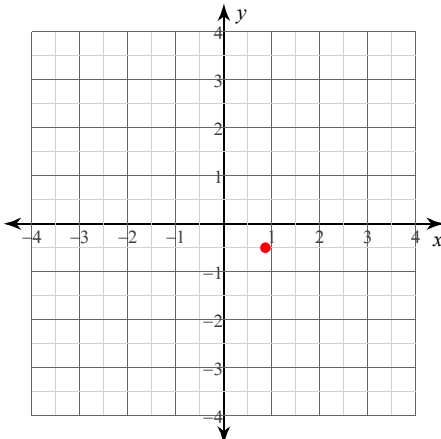
$(-2, 0)$

$$10) (-4, 240^\circ)$$



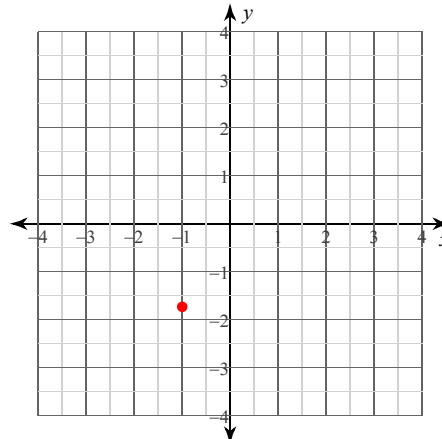
$(2, 2\sqrt{3})$

$$11) \left(-1, -\frac{7\pi}{6}\right)$$



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

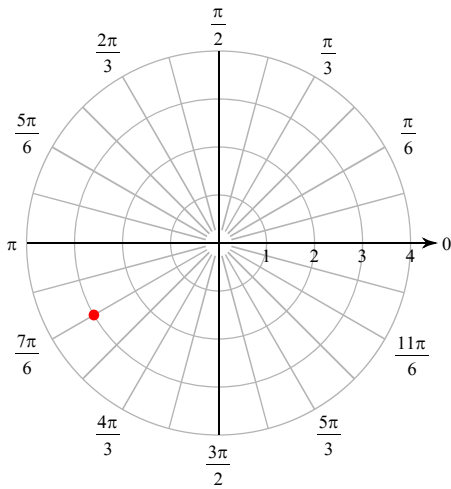
$$12) \left(2, -\frac{2\pi}{3}\right)$$



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

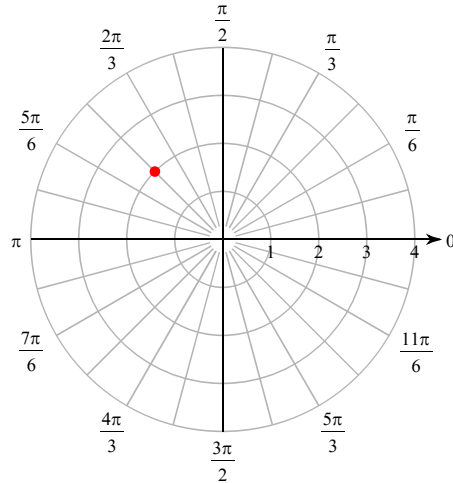
Convert each pair of rectangular coordinates to polar coordinates where $r > 0$ and $0 \leq \theta < 2\pi$.

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



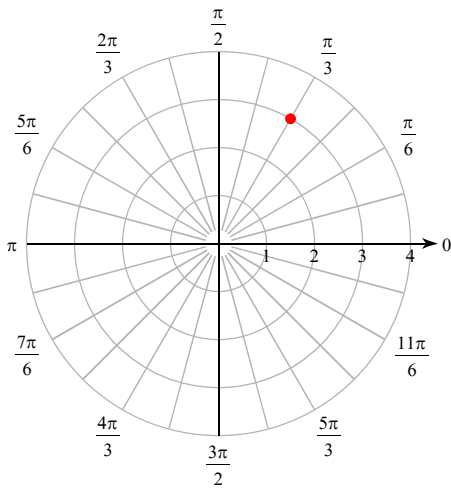
$\left(3, \frac{7\pi}{6}\right)$

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



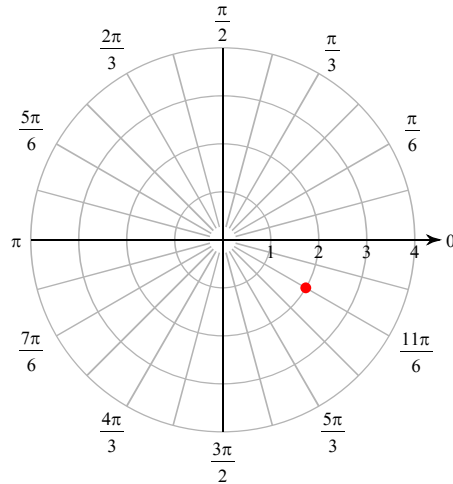
$\left(2, \frac{3\pi}{4}\right)$

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



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

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



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

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

17) $(4, 225^\circ)$

$(4, 225^\circ + 360n^\circ)$ and $(-4, 45^\circ + 360n^\circ)$
where n is an integer

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

$\left(3, \frac{\pi}{4} + 2n\pi\right)$ and $\left(-3, \frac{\pi}{4} + (2n+1)\pi\right)$
where n is an integer