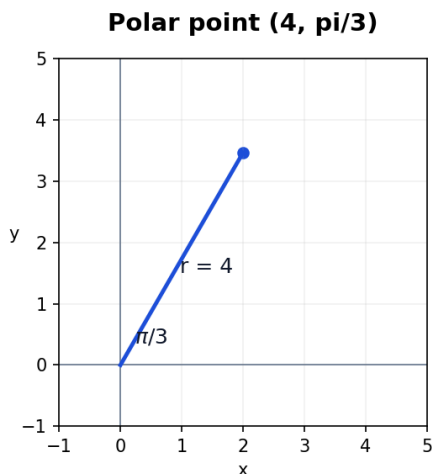


Problems | Name: _____

8.1 Plotting and Equivalent Representations

8.1.1. Convert the polar point $(4, \pi/3)$ to Cartesian coordinates.



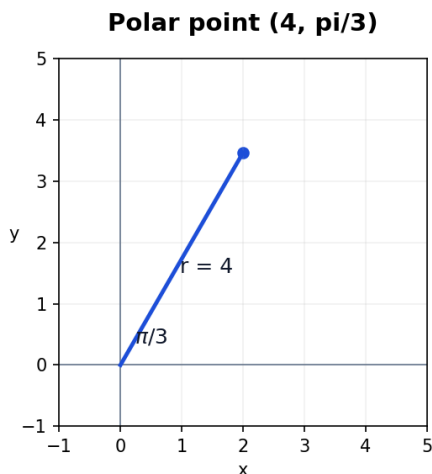
8.1.2. Give an equivalent representation of $(3, \pi/4)$ with negative radius.

8.1.3. Are $(2, \pi/2)$ and $(-2, 3\pi/2)$ the same point?

Problems | Name: _____

8.2 Conversion

8.2.1. Convert $(r, \theta) = (4, \pi/3)$ to Cartesian coordinates.



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Use $x = r \cos(\theta)$ and $y = r \sin(\theta)$.

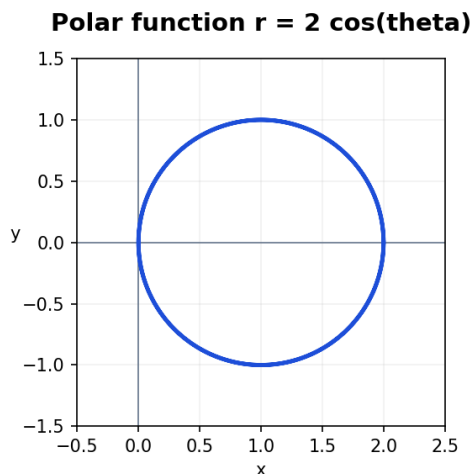
8.2.2. Convert $(-3, -3)$ to polar coordinates with positive radius.

8.2.3. Convert $r = 4\cos \theta$ into a Cartesian equation.

Problems | Name: _____

8.3 Polar Graphs and Symmetry

8.3.1. For $r = 2\cos\theta$, find points at $\theta = 0, \pi/3, \pi/2$.



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Signed radii trace a circle even when the radius is negative.

8.3.2. Does $r = 2\cos\theta$ have symmetry across the polar axis?

8.3.3. For $r = 1 + \cos\theta$, find the maximum radius and an angle where the graph reaches the pole.