

Precalc Nov 18, 2022

Board Work

Consider the point (x_1, y_1) , which is on the circle $x^2 + y^2 = r^2$.

1. Graph the circle, the point, and the angle, θ , in standard position.
2. In degrees, what is θ ?
3. There is another point on this circle with an x coordinate of x_1 . What is this point? Graph it, and find the angle in standard position that intersects the circle at that point. How does it relate to the θ you found above?
4. There is another point on this circle with a y coordinate of y_1 . What is this point? Graph it, and find the angle in standard position that intersects the circle at that point. How does it relate to the θ you found above?

Based off of this, make two conjectures: one about $\sin(-\theta)$, and one about $\cos(-\theta)$. Write them down.

Desk Work

Compare your conjectures. Can you prove or disprove them?

What is the simplest way you can think of to list all the angles that have the same sine?

What is the simplest way you can think of to list all the angles that have the same cosine?

Rational Equation Review

1. Find all solutions to

$$\frac{x-1}{x+2} + \frac{x-2}{x+1} = \frac{2x-3}{x}$$

2. It takes Ms Stordy seven hours to put together the LIATORP bookshelf from IKEA. Ms Schardl can do it in two. How long will it take both of us to put together the bookshelf?