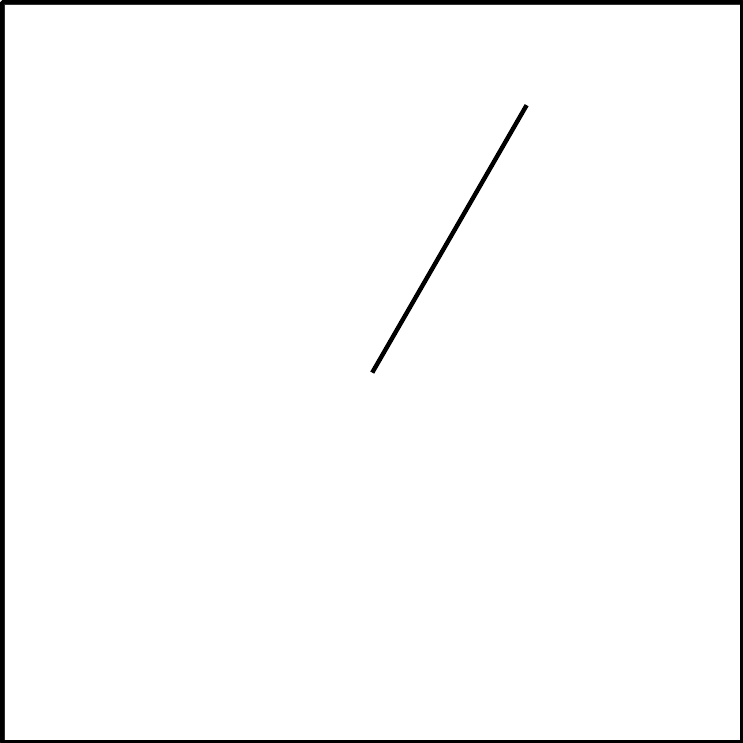
## Unit 6 Lesson 5: The Pythagorean Identity (Part 1)

### 1 Circle Equations (Warm up)

#### Student Task Statement

Here is a circle centered at with a radius of 1 unit.

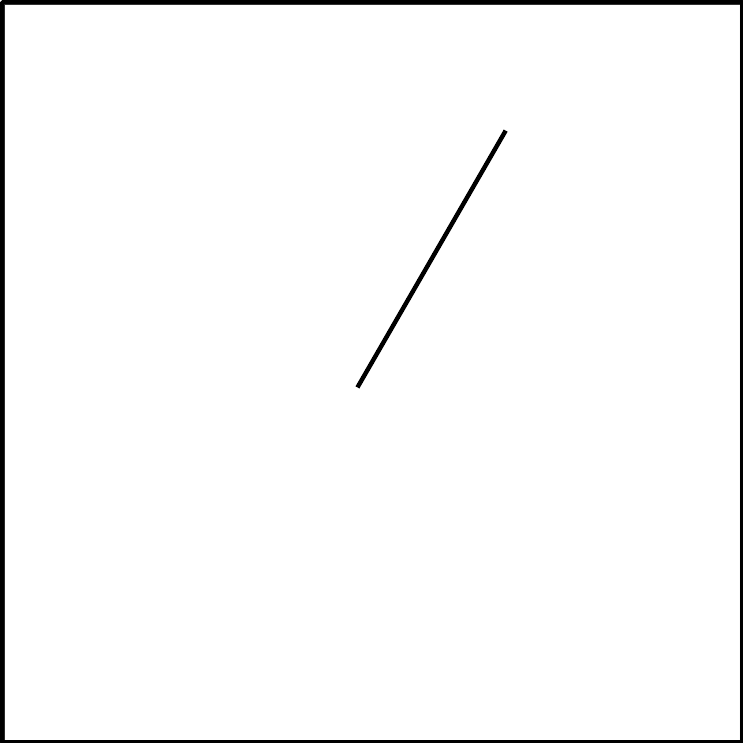
What are the exact coordinates of if is rotated counterclockwise radians from the point ? Explain or show your reasoning.



### 2 Cosine, Sine, and the Unit Circle

#### Student Task Statement

What are the exact coordinates of point if it is rotated radians counterclockwise from the point ? Explain or show your reasoning.

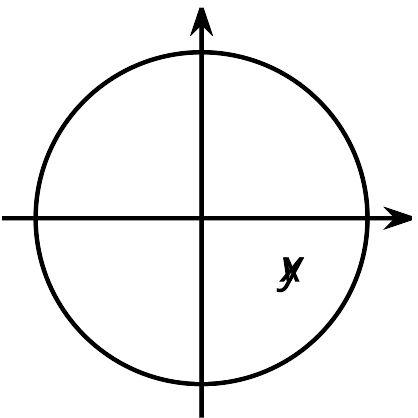


### 3 A New Identity

#### Student Task Statement

1. Is the point on the unit circle? Explain or show your reasoning.
2. Is the point on the unit circle? Explain or show your reasoning.
3. Suppose that and that is in quadrant 4. What is the exact value of ? Explain or show your reasoning.

#### Images for Activity Synthesis





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