5.3 - The Unit Circle

Skills:

- Evaluate trigonometric functions using the unit circle

The Idea

Make a bunch of triangles of hypotenuse 1...they trace out a circle of radius 1
This is the Unit Circle

The idea is to exchange triangles for points in the plane...

The Unit Circle

...let's investigate via GeoGebra...

The Trigonometric Ratios

Sine of an angle is the y-coordinate of any point
Cosine of an angle is the x-coordinate of any point
Tangent of an angle is y divided by x for any point
Secant is the reciprocal of the x-coordinate
Cosecant is the reciprocal of the y-coordinate
Cotangent is x divided by y

Examples

(*I'll pick some randomly*)