Learning Targets

## Learning Targets

### Trigonometric Functions

### Lesson 1: Moving in Circles

* I can use the Pythagorean Theorem to find coordinates of points on a circle centered at the origin.
* I understand that a periodic function is one with outputs that repeat at regular intervals.

### Lesson 2: Revisiting Right Triangles

* I understand how to use trigonometry to express the coordinates of a point in quadrant 1 that is 1 unit away from the origin.

### Lesson 3: The Unit Circle (Part 1)

* I understand that a radian angle measurement is the ratio of the arc length to the radius of the circle.
* I understand that points on a unit circle can be defined by their coordinates or by an angle of rotation.

### Lesson 4: The Unit Circle (Part 2)

* I can find different angles on the unit circle and estimate their coordinates.

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

* I can use the Pythagorean Identity to calculate values of coordinates given one coordinate to start from.
* I understand that the coordinates of a point on the unit circle at $θ$ radians can be written as $(cos(θ),sin(θ))$.

### Lesson 6: The Pythagorean Identity (Part 2)

* I can use the Pythagorean Identity to find the values of cosine, sine, and tangent of an angle if I know one of them and the quadrant of the angle.

### Lesson 7: Finding Unknown Coordinates on a Circle

* I can use cosine and sine to figure out information about points rotating in circles.

### Lesson 8: Rising and Falling

* I understand that the graph of a periodic function can look like a wave whose outputs repeat between the same maximum and minimum values.

### Lesson 9: Introduction to Trigonometric Functions

* I can use the coordinates of points on the unit circle to graph the cosine and sine functions.

### Lesson 10: Beyond $2π$

* I understand how to find the values of cosine and sine for inputs greater than $2π$ radians.

### Lesson 11: Extending the Domain of Trigonometric Functions

* I understand how to find the values of cosine and sine for inputs less than 0 radians.

### Lesson 12: Tangent

* I can explain why the tangent function has a period of $π$.
* I understand why the graph of tangent has asymptotes.

### Lesson 13: Amplitude and Midline

* I can write a trigonometric function to represent situations with different amplitudes and midlines.

### Lesson 14: Transforming Trigonometric Functions

* I can graph a horizontal translation of a trigonometric function.
* I can use the amplitude and midline of a trigonometric equation to describe a situation.

### Lesson 15: Features of Trigonometric Graphs (Part 1)

* I can identify the midline, amplitude, and horizontal translation of a trigonometric function given a graph or equation.

### Lesson 16: Features of Trigonometric Graphs (Part 2)

* I can find the period of a trigonometric function using an equation or graph.

### Lesson 17: Comparing Transformations

* I can ask questions to figure out how a trigonometric function was transformed.
* I can create an equation of a trigonometric function using information about its graph.

### Lesson 18: Modeling Circular Motion

* I can represent a circular motion situation using a graph and an equation.

### Lesson 19: Beyond Circles

* I can create a model of data that is approximately periodic and use the model to make predictions.



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