

삼각함수 사이의 관계 (Relations between Trigonometric Functions)

Relations between Trigonometric Functions

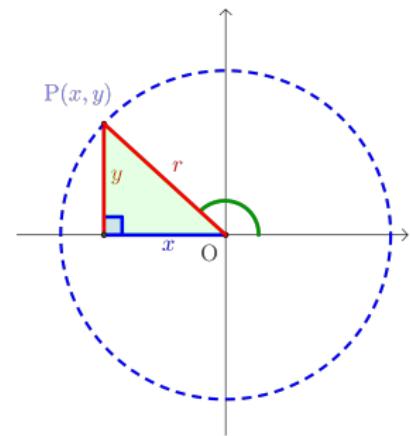
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Relations between Trigonometric Functions

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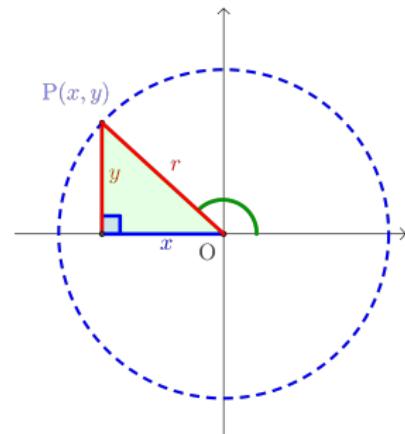


Relations between Trigonometric Functions

▶ Start

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- Reciprocal Identities :



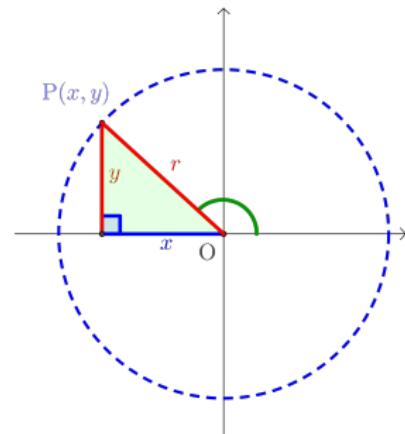
Relations between Trigonometric Functions

▶ Start

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- Reciprocal Identities :

$$\csc \theta =$$



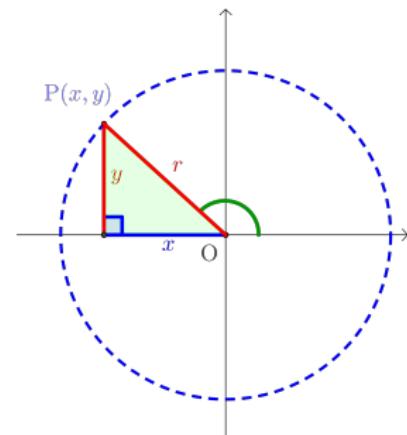
Relations between Trigonometric Functions

▶ Start

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- Reciprocal Identities :

$$\csc \theta = \frac{r}{y}$$



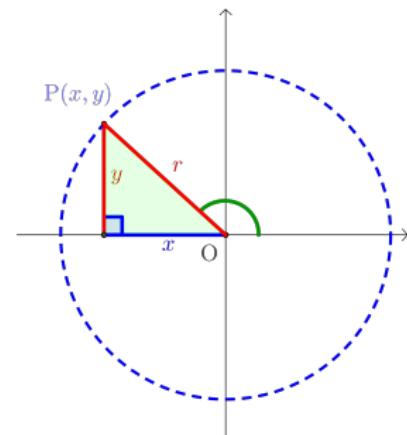
Relations between Trigonometric Functions

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▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\frac{y}{r}}$$



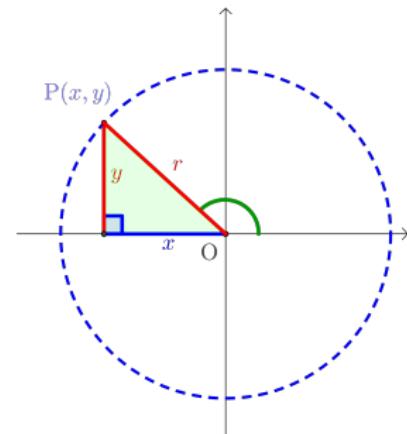
Relations between Trigonometric Functions

▶ Start

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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta} ,$$



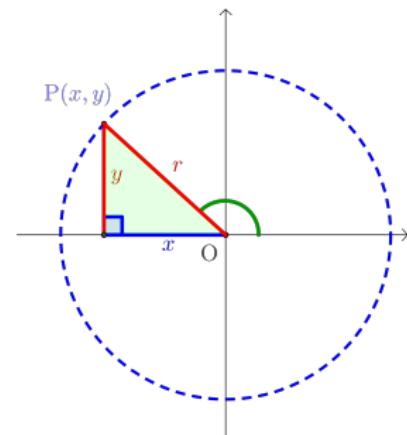
Relations between Trigonometric Functions

▶ Start

▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta =$$



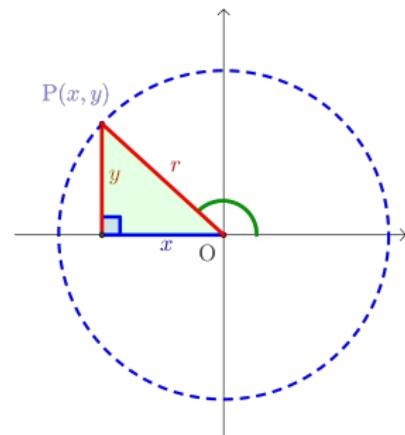
Relations between Trigonometric Functions

▶ Start

▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{r}{x}$$



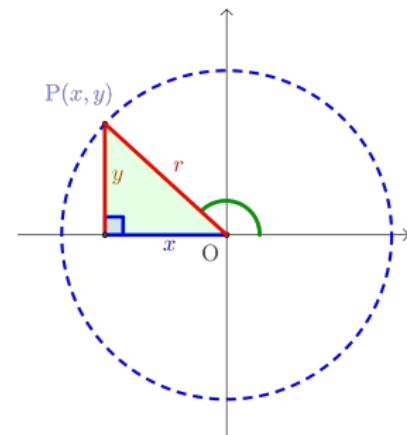
Relations between Trigonometric Functions

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▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\frac{x}{r}}$$



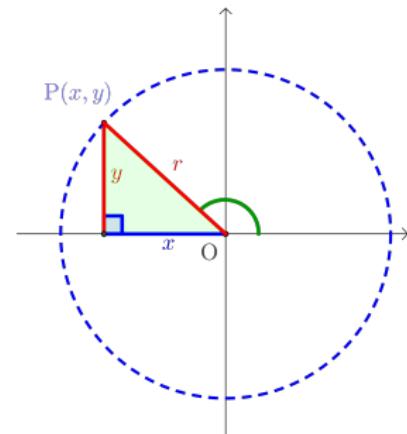
Relations between Trigonometric Functions

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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta},$$



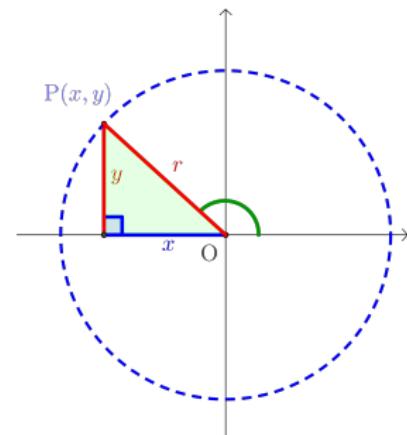
Relations between Trigonometric Functions

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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta =$$



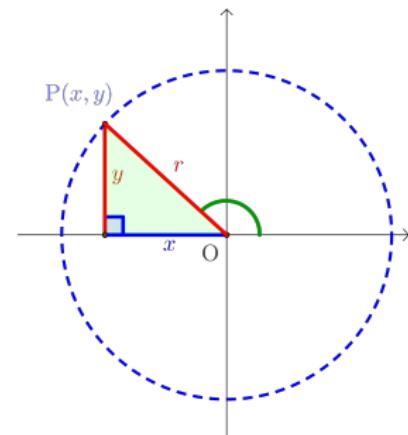
Relations between Trigonometric Functions

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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{x}{y}$$



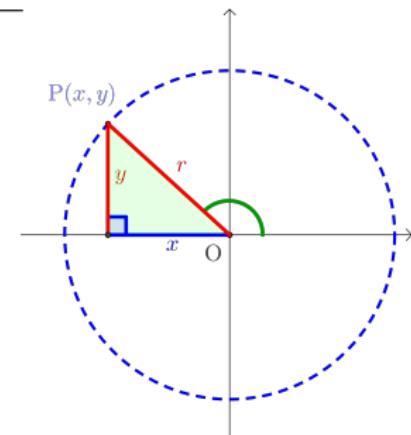
Relations between Trigonometric Functions

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▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$



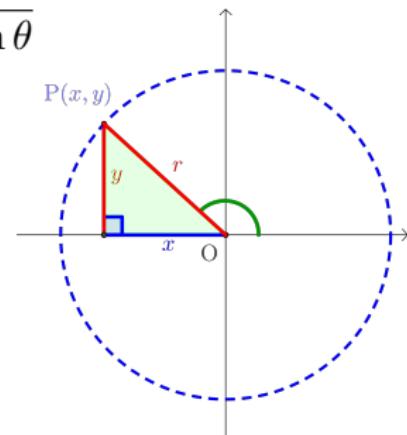
Relations between Trigonometric Functions

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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$



Relations between Trigonometric Functions

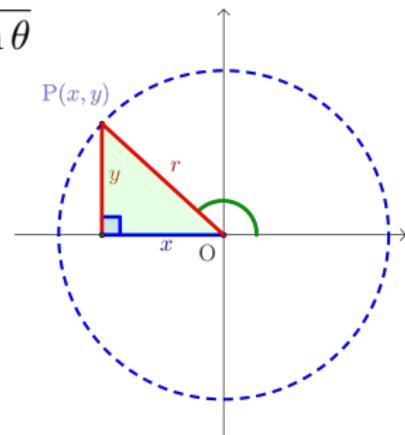
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :



Relations between Trigonometric Functions

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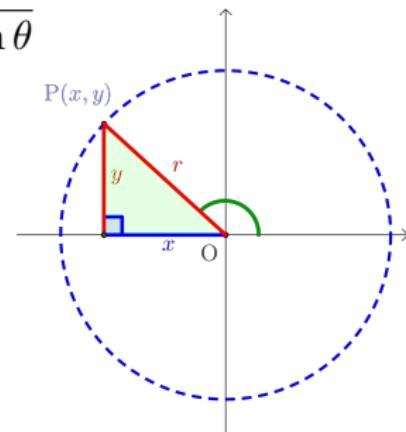
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta =$$



Relations between Trigonometric Functions

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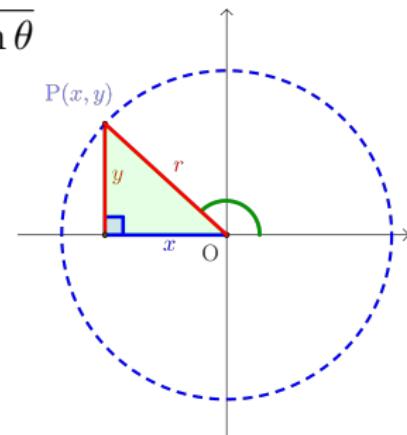
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{y}{x}$$



Relations between Trigonometric Functions

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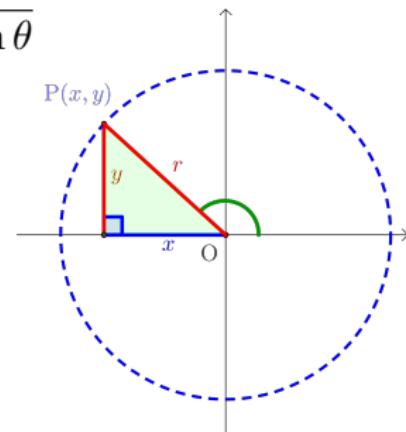
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\frac{y}{x}}{\frac{-r}{r}}$$



Relations between Trigonometric Functions

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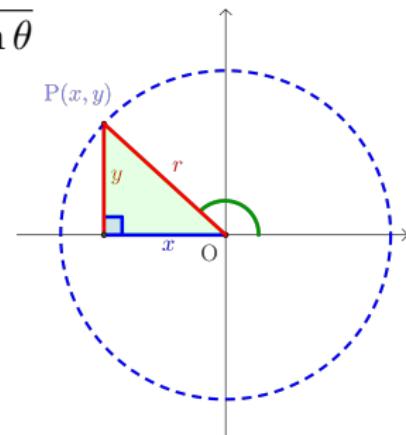
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta},$$



Relations between Trigonometric Functions

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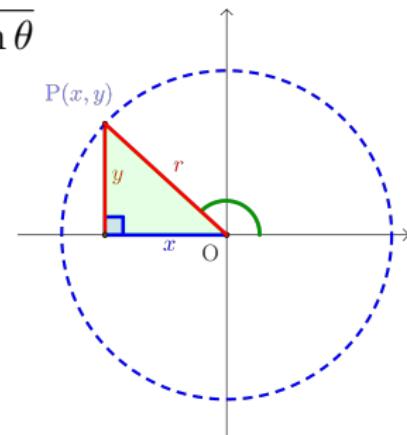
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta =$$



Relations between Trigonometric Functions

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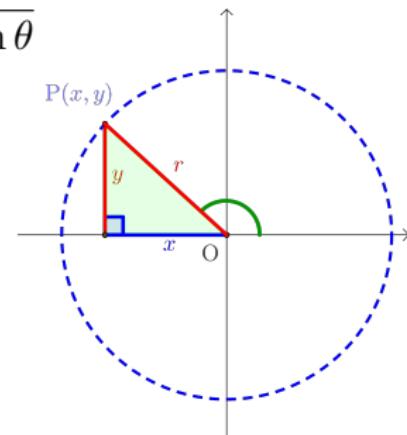
▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{x}{y}$$



Relations between Trigonometric Functions

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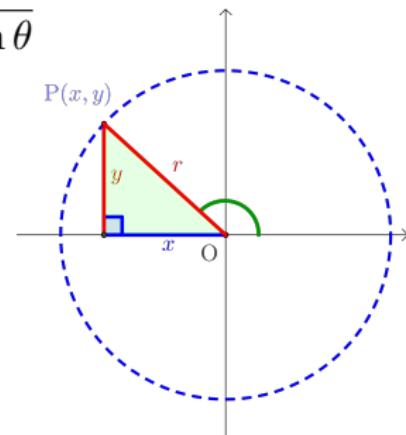
▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\frac{x}{r}}{\frac{y}{r}}$$



Relations between Trigonometric Functions

▶ Start

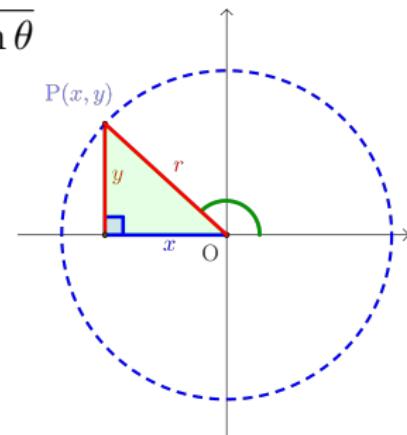
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- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$



Relations between Trigonometric Functions

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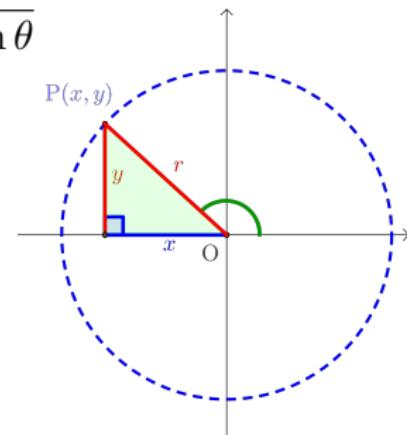
- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$

- Pythagorean Identities :



Relations between Trigonometric Functions

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▶ End

- Reciprocal Identities :

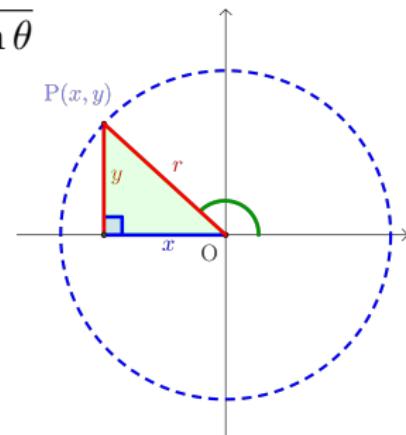
$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$

- Pythagorean Identities :

$$\sin^2 \theta + \cos^2 \theta = 1$$



Relations between Trigonometric Functions

▶ Start

▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

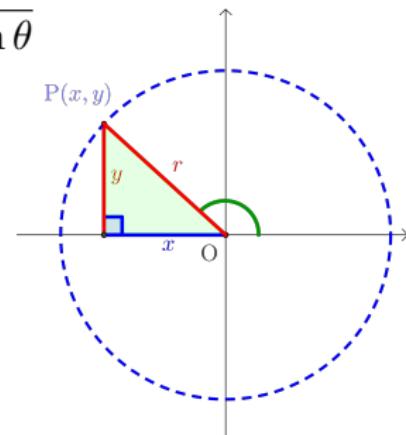
- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$

- Pythagorean Identities :

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\frac{\sin^2 \theta}{\cos^2 \theta} + \frac{\cos^2 \theta}{\cos^2 \theta} = \frac{1}{\cos^2 \theta}$$



Relations between Trigonometric Functions

▶ Start

▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

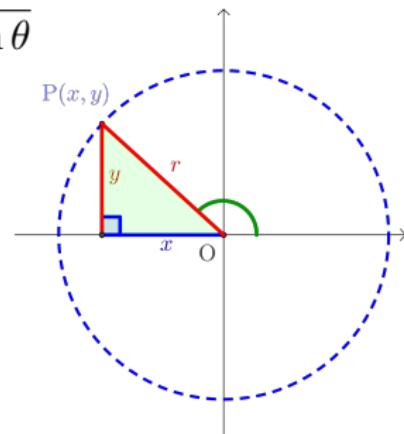
- Quotient Identities :

$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$

- Pythagorean Identities :

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\tan^2 \theta + 1 = \sec^2 \theta$$



Relations between Trigonometric Functions

▶ Start

▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

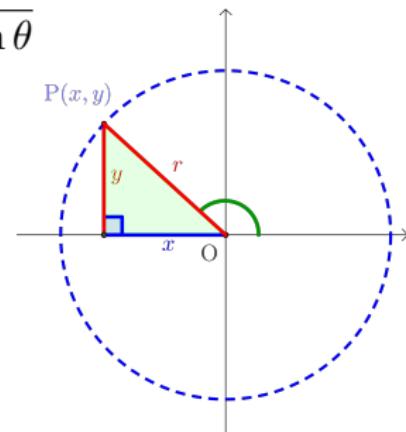
$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$

- Pythagorean Identities :

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\tan^2 \theta + 1 = \sec^2 \theta$$

$$\frac{\sin^2 \theta}{\cos^2 \theta} + \frac{\cos^2 \theta}{\sin^2 \theta} = \frac{1}{\sin^2 \theta}$$



Relations between Trigonometric Functions

▶ Start

▶ End

- Reciprocal Identities :

$$\csc \theta = \frac{1}{\sin \theta}, \quad \sec \theta = \frac{1}{\cos \theta}, \quad \cot \theta = \frac{1}{\tan \theta}$$

- Quotient Identities :

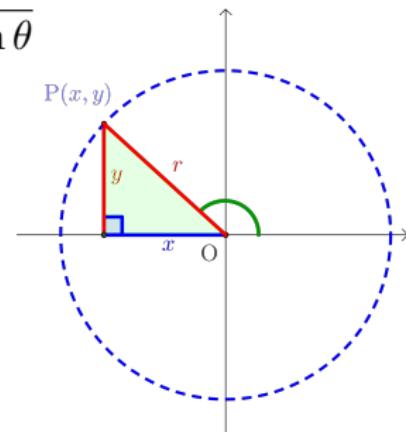
$$\tan \theta = \frac{\sin \theta}{\cos \theta}, \quad \cot \theta = \frac{\cos \theta}{\sin \theta}$$

- Pythagorean Identities :

$$\sin^2 \theta + \cos^2 \theta = 1$$

$$\tan^2 \theta + 1 = \sec^2 \theta$$

$$1 + \cot^2 \theta = \csc^2 \theta$$



Github:

<https://min7014.github.io/math20230415001.html>

Click or paste URL into the URL search bar,
and you can see a picture moving.