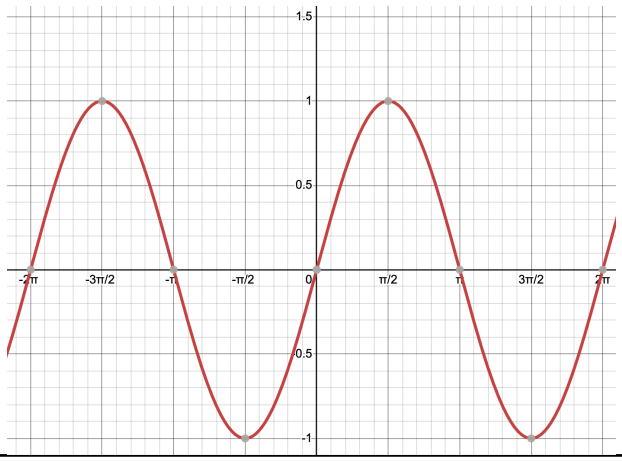
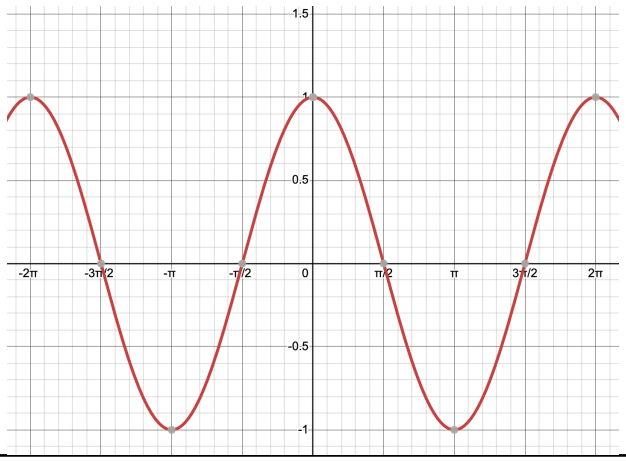
A - Level Maths Coordinate Geometry Recap

Trigonometric Functions

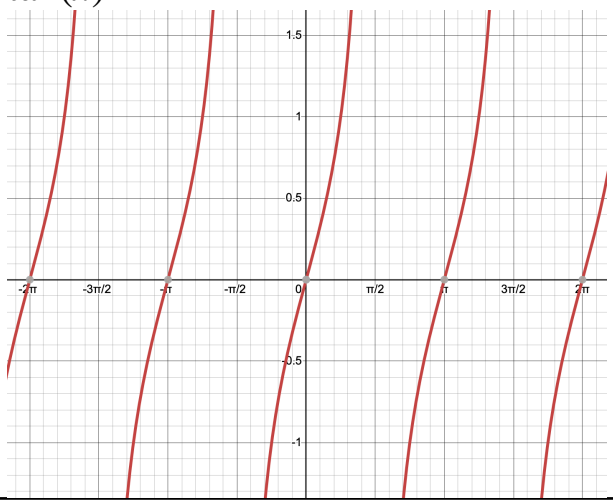
$\sin(x)$



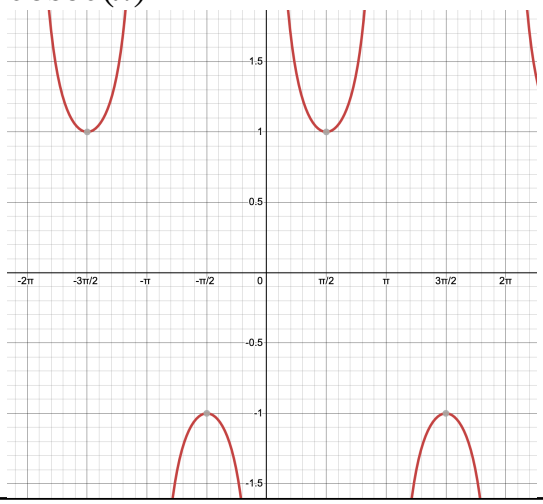
$\cos(x)$



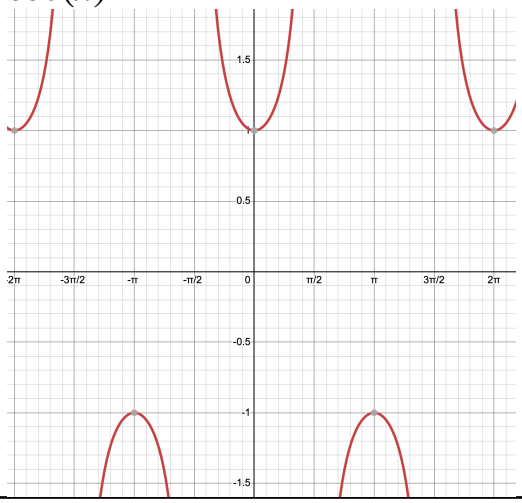
$\tan(x)$



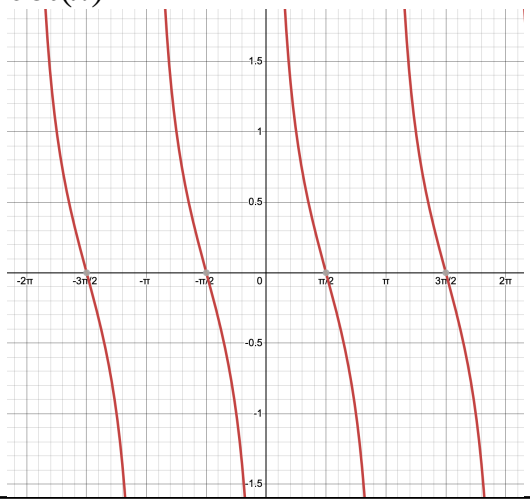
$\operatorname{cosec}(x)$



$\sec(x)$



$\cot(x)$



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Trigonometric Identities

$\tan(x) =$

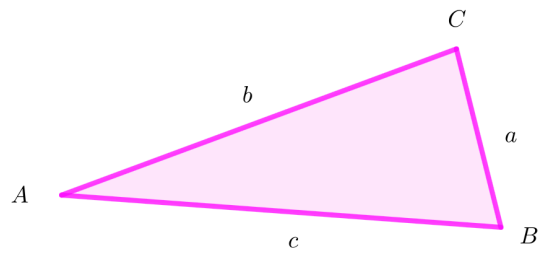
Pythagorean Identities:

Addition Formulae:

Double Angle Formulae

Triangles

For the triangle shown



Cosine Rule:

Sine Rule:

Area:

Exact Values of Trigonometric Functions:

Small angle Approximations:

Example

Express $12\sin(x) - 5\cos(x)$ in the form $R\sin(x - \alpha)$

Hence, solve $12\sin(x) - 5\cos(x) = 5$

Example

Prove $\cot(x) - \tan(x) = 2\cot(2x)$

Example

Solve $\sin(\theta) - 2\cos(\theta) = 0$ for $0^\circ \leq \theta \leq 360^\circ$

Example

Solve $\sin^2(x) + \sin(x) = \cos^2(x)$ for $0 \leq x \leq 2\pi$