

MATH110 - College Trigonometry

Long Quiz 003

A triangle with sides of 8, 10 and $2\sqrt{41}$ is a right triangle.

=True

When the angle H is 60° angle, then the equation $d^2=r^2+m^2-2rm \cos H$ becomes $d^2=r^2+m^2-\sqrt{3}rm$

=False

Given the figure below, then which of the following statements is TRUE?

= $\csc A = p/d$

Solve for x in the triangle below.

=10.09

Which of the following equations is a result of the application of the Law of Sines on the triangle below?

= $m \sin L = r \sin C$

Which of the following is equivalent to $\cos x \cos y$?

= $\frac{1}{2}[\cos(A+B) + \cos(A-B)]$

Convert $\frac{\pi}{35} + \sin \frac{\pi}{7}$ to product form.

= $2 \sin\left(\frac{6\pi}{35}\right) \cos\left(\frac{\pi}{35}\right)$

Which of the following fractions is equal to the cotangent of an angle?

=adjacent leg/opposite leg

In right $\triangle MPL$, $\sec M = ?$

= $\frac{41}{9}$

Using the right triangle below, what is $\sin B - \csc A + \tan B$?

= $\frac{1}{10}$

The solutions to $2\sin x + 1 = 0$ are on the first and second quadrants.

=False

If the equation $p \sin D = m \sin L$ is an expression of the Law of Sines, then which of the following statements must be TRUE?

=The length of the side opposite angle D is m.

The sine of an angle is never negative

=False

The sides of a triangle have measures 7, 13 and 10. What is the measure of the angle opposite the side with a measure of 7?

= 32.20°

If $\frac{h}{\sin L} = \frac{r}{\sin Q}$, then $Q = \sin^{-1}(\frac{r \sin L}{h})$

=True

A triangle can be solved using the Law of Cosines if the measure of two of its angles and an included side are given.

=False

The equation $5 = 6 + 7 - 2\sqrt{42} \cos K$ is an application of the Law of Cosines. Which of the following statements is TRUE about the triangle?

=One of its sides measures $\sqrt{5}$

If $\cos 6\pi \cos 3\pi = \frac{1}{2} [\cos k + \cos m]$, then what is the value of k/m ?

=3

The ratio of the hypotenuse to the opposite leg is called the cosecant.

=True

If the equation $\frac{8}{\sin R} = \frac{15}{\sin 50}$ is an expression of the Law of Sines, then which of the following expressions will give the value of R?

= $\sin^{-1}(\frac{8 \sin 50}{15})$

Which of the following trigonometric ratios do not involve the opposite leg?

= secant

If all three angles of a triangle are known, then the measure of any side can be determined.

=False

If $18^2 = 7^2 + 12^2 - 2(7)(12) \cos P$, then what expression gives P?

= $\cos^{-1}[\frac{7^2 + 12^2 - 18^2}{2(7)(12)}]$

If $y^2 = x^2 + z^2 - 2xz \cos Y$, then $-x^2 + 2xz \cos Y = -y + z^2$

=True

When the Law of Sines is applied to a triangle with sides 10, m and k, the equation $\frac{10}{\sin 12} = \frac{m}{\sin 38}$ was formed. Which of the following statements is TRUE?

= $\frac{10}{\sin 2} = \frac{k}{\sin 130}$

Solve $2 \csc x - 4 = 0$ (where $0 \leq x < 2\pi$)

= $\{\frac{\pi}{6}, \frac{5\pi}{6}\}$

If $\tan \theta - 1 = 0$ and θ is in QIII, then $\cos \theta = -\frac{\sqrt{2}}{2}$

=True

The equation $p^2 = h^2 + b^2 - 2(h)(b)\cos K$ is an application of the Law of Cosines. Which of the following statements is TRUE?

= The measure of the side opposite angle K is p.

Which of the following expressions is equivalent to $\frac{1}{2}[\cos 3\pi - \cos 11\pi]$?

= $\sin 7\pi \sin 4\pi$

What expression gives the value of x?

= $\sqrt{14^2 + 19^2 - 2(14)(19)\cos 75}$

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