

Ottocento Lesson #12 Sine and Cosine Properties Worksheet

Video Solutions at: <https://youtu.be/PS1xkgmGfbQ>

Question 1

In a right triangle, one angle measures x° , where $\cos(x^\circ) = 8/19$.

What is $\sin(90^\circ - x^\circ)$?

Question 2

In a right triangle, one angle measures x° , where $\sin(x^\circ) = 24/25$.

What is $\cos(90^\circ - x^\circ)$?



Question 3

If $\sin(x^\circ) = d$, which of the following must be true for all values of x ?

A) $\cos(90^\circ - x^\circ) = d$

B) $\cos(x^\circ) = d$

C) $\sin(90^\circ - x^\circ) = d$

D) $\sin(x^\circ + 90^\circ) = d$

Question 4

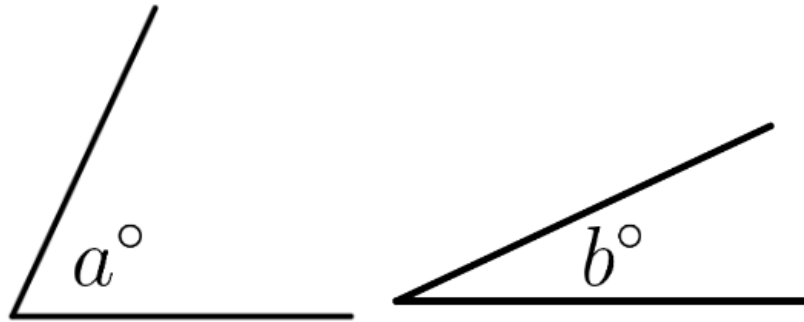
In right triangle XYZ , $\sin X = \cos 63^\circ$. What is the measure, in degrees, of angle X ?

Question 5

In right triangle DEF , $\cos D = \sin 18^\circ$. What is the measure, in degrees, of angle D ?



Question 6



The angles shown above are acute and $\sin(a^\circ) = \cos(b^\circ)$.

If $a = 2k - 3$ and $b = 7k + 11$, what is the value of k ?

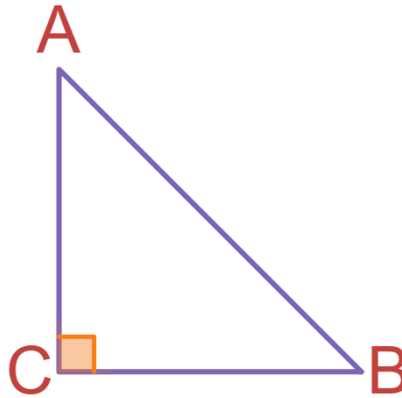
Question 7

The measures of two acute angles are x° and y° , and $\cos(x^\circ) = \sin(y^\circ)$.

If $x = k^2 + 11k + 40$ and $y = 78 + 5k$, what is the positive difference between the two values of k ?

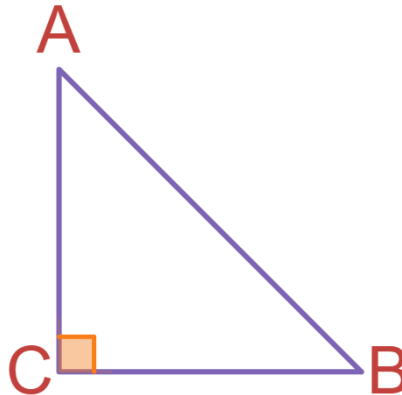


Question 8



If $\cos A = 23/59$, what is $\sin B$?

Question 9

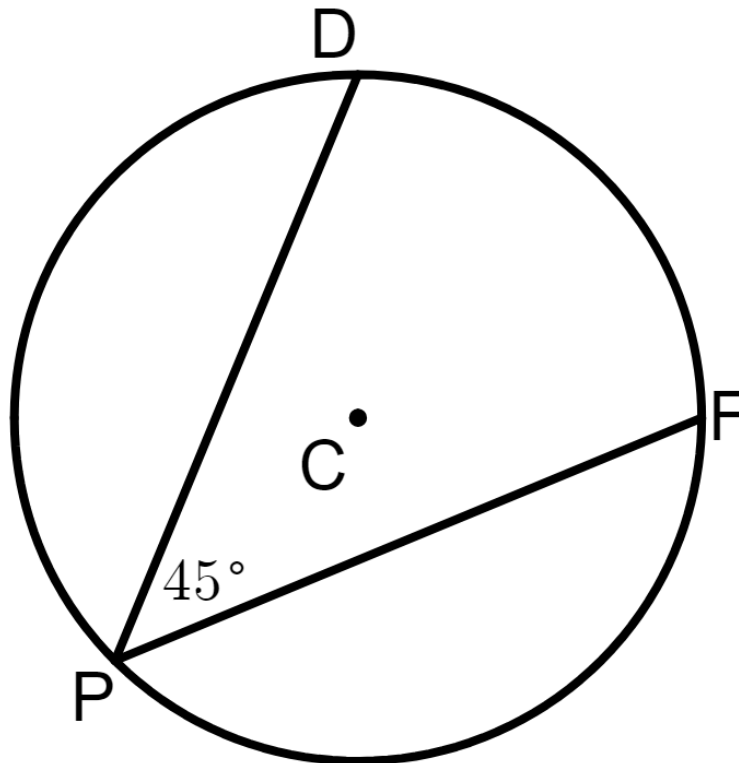


In triangle ABC , point Q (not shown) lies on segment AB . If the measure of $\angle ACQ$ is x° and the measure of $\angle QCB$ is y° .

If $\sin(x^\circ) = 0.85$, what is the value of $\sin(x^\circ) + \cos(y^\circ)$?



Question 10



In the figure above, point C is the center of the circle.

What is the value of $\sin(\angle CDF) - \cos(\angle DFC)$?