

Answer on Question#54404 – Math – Trigonometry

1. Which angle between 0° and 360° has the same cosine as the angle 63° ? Enter your answer as an integer.

Solution.

We know that cosine is positive in first and forth quadrants. Angle 63° is located in first quadrant and $\cos 63^\circ$ is positive. Hence, another angle which has the same cosine is located in forth quadrant. We can write next identity:

$\cos(360^\circ - \alpha) = \cos \alpha$, where $\alpha < 90^\circ$. It derived from the fact that we have the same value of cosine, when we move counterclockwise and clockwise in unit circle.

So, in our case we have:

$$360^\circ - 63^\circ = 297^\circ.$$

Answer:

hence, $\alpha = 297^\circ$.