Answer on Question #57922 -Math - Trigonometry

Task:

1. Fill in the blank. If necessary, use the slash mark (/) for a fraction bar.

If $\cos(\theta) = 3/5$, then $\tan(\theta) =$ __. ___

Solution:

1) Use the function inverse cosine (arccosine) to find the angle from the known value of the cosine:

$$\theta = \arccos(\cos(\theta)) = \arccos(3/5) = 53.13°$$

Then,

$$\tan(\theta) = \tan(53.13°) = 1.3333$$

2) Also, knowing the value of the angle, the tangent can be found from the relation:

$$\tan(\theta) = \frac{\sin(\theta)}{\cos(\theta)};$$

Then,

$$\tan(\theta) = \frac{\sin(53.13°)}{\cos(53.13°)} = 1.3333$$

Answer:

$\tan(\theta) = 1.3333$.

Task:

2. $\sin(30) = \sqrt{3}/2$ and $\cos(30) = 1/2$

A: true

B: false

Solution:

$$\sin(30) \neq \sqrt{3}/2 \text{ and } \cos(30) \neq 1/2$$

Because,

$$\cos(30) = \sqrt{3}/2 \text{ and } \sin(30) = 1/2$$

Therefore the original approval is false.

Answer:

B: false.