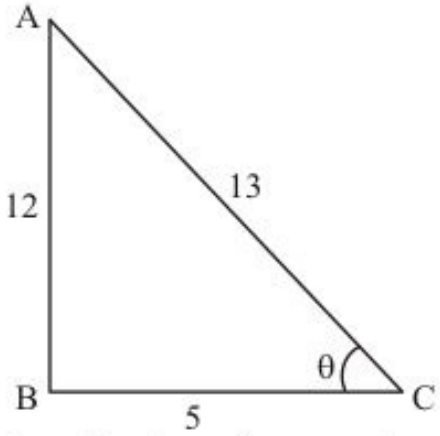
Trigonometric Identities Ex 6.2 Q5

Answer :

Given: $\tan\theta = \frac{12}{5}$

We have to find the value of the expression $\frac{1+\sin\theta}{1-\sin\theta}$.



From the above figure, we have

$$AC = \sqrt{AB^2 + BC^2}$$
$$= \sqrt{12^2 + 5^2}$$
$$= 13$$
$$\Rightarrow \sin\theta = \frac{12}{13}$$

Therefore,

$$\frac{1+\sin\theta}{1-\sin\theta} = \frac{1+\frac{12}{13}}{1-\frac{12}{13}}$$
$$= 25$$

Hence, the value of the given expression is 25.

********** END **********