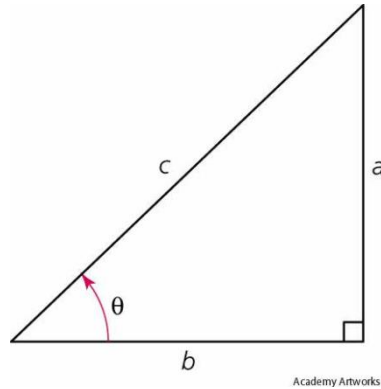


Trigonometry Ratio

Understanding the usage of sine, cos and tangent



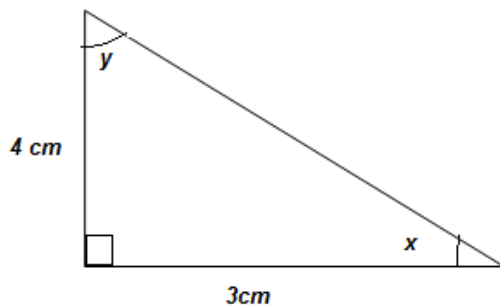
Academy Artworks

$$\sin\theta = \frac{a}{c}$$

$$\cos\theta = \frac{b}{c}$$

$$\tan\theta = \frac{a}{b}$$

Question



Find the value

- a. Sin x
- b. Sin y
- c. Cos x
- d. Cos y
- e. Tan x
- f. Tan y

Using calculator Find the following answer

Find $\sin 30^\circ =$	Find $\sin 40^\circ =$
Find $\sin 60^\circ =$	Find $\sin 32^\circ =$
Find $\cos 30^\circ =$	Find $\cos 40^\circ =$
Find $\tan 40^\circ =$	Find $\tan 35^\circ =$
Find $\sin 75^\circ =$	Find $\tan 130^\circ =$
Find $\sin 135^\circ =$	Find $\tan 126^\circ =$
Find $\cos 143^\circ =$	Find $\sin 155^\circ =$

Question

Determine the angle θ for the following questions using your calculator

$\sin \theta = 0.5$	$\sin \theta = -0.5$
$\cos \theta = 0.7543$	$\cos \theta = -0.7543$
$\tan \theta = 0.45$	$\tan \theta = -0.45$
$\cos \theta = 0.6745$	$\cos \theta = -0.6745$
$\cos \theta = 0.3333$	$\cos \theta = -0.3333$
$\sin \theta = 0.1234$	$\sin \theta = -0.1234$
$\tan \theta = 0.6534$	$\tan \theta = -0.6534$
$\tan \theta = 0.8765$	$\tan \theta = -0.8765$

Special Angles

Trigonometric Ratios of some specific Angles: 0° , 30° , 45° , 60° , & 90°

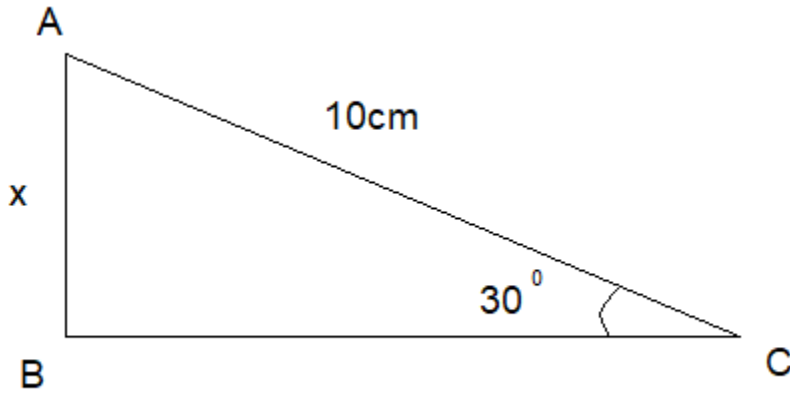
T-ratio \ θ	0°	30°	45°	60°	90°
$\sin \theta$	0	$\frac{1}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{\sqrt{3}}{2}$	1
$\cos \theta$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{\sqrt{2}}$	$\frac{1}{2}$	0
$\tan \theta$	0	$\frac{1}{\sqrt{3}}$	1	$\sqrt{3}$	Not defined
$\operatorname{cosec} \theta$	Not defined	2	$\sqrt{2}$	$\frac{2}{\sqrt{3}}$	1
$\sec \theta$	1	$\frac{2}{\sqrt{3}}$	$\sqrt{2}$	2	Not defined
$\cot \theta$	Not defined	$\sqrt{3}$	1	$\frac{1}{\sqrt{3}}$	0

Students are required to memorise the special angles. You need to use the table above to solve complex mathematics

Find

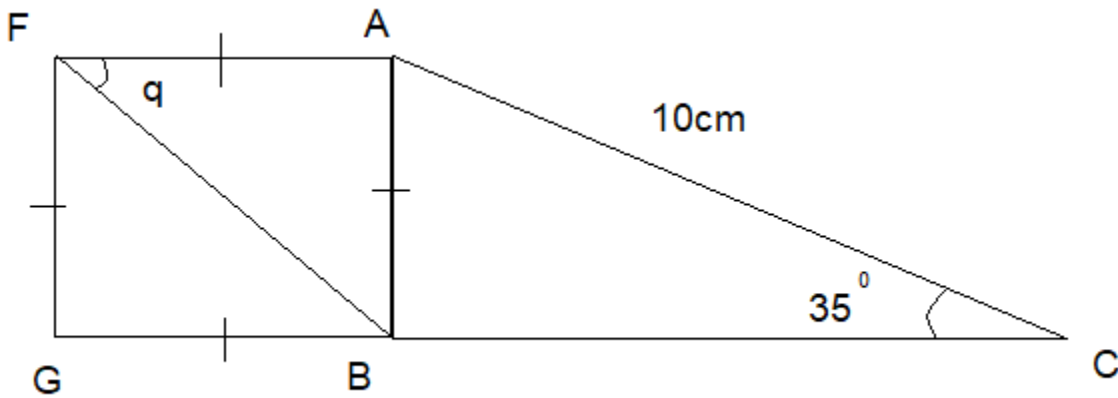
$\sin 30^\circ =$	$\sin 60^\circ =$	$\sin 90^\circ =$
$\cos 30^\circ =$	$\cos 60^\circ =$	$\cos 90^\circ =$
$\tan 30^\circ =$	$\tan 60^\circ =$	$\tan 90^\circ =$

Questions 1



Find the value of x?

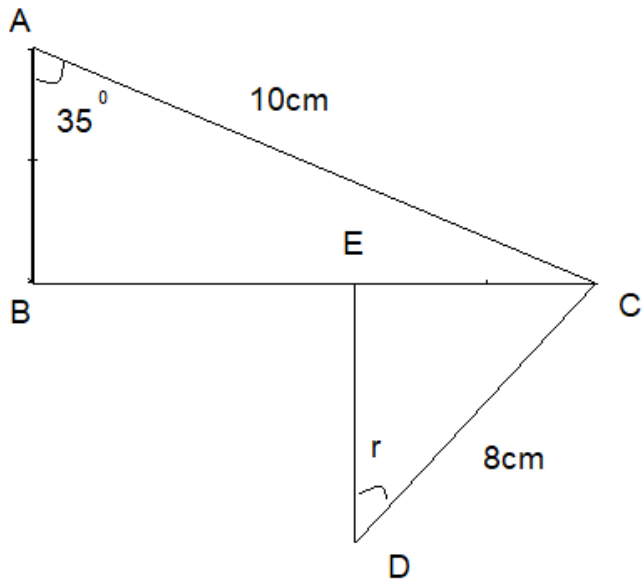
Question 2



Find

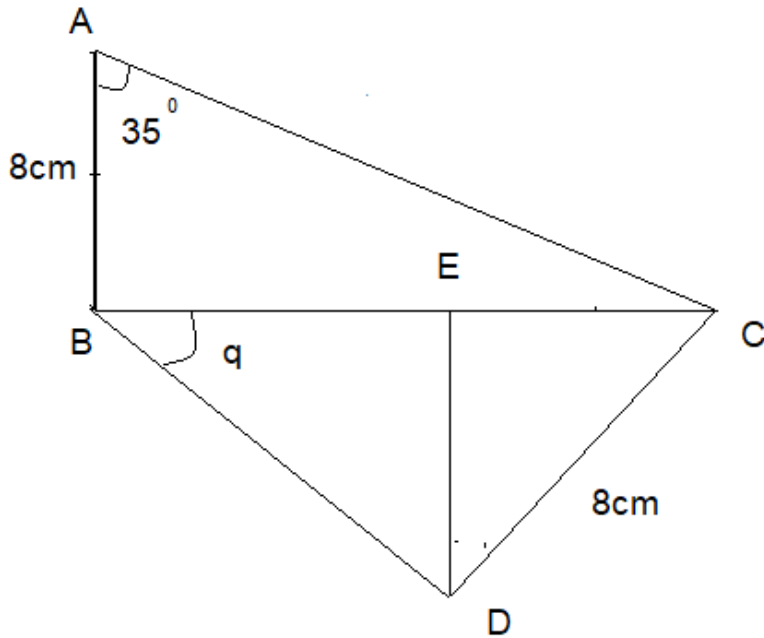
- a) The perimeter of the entire diagram
- b) The angle for q

Question 3



Given the $BE = 2EC$, find the angle r ?

Question 4



Find the angle q