

GOVERNMENT HIGH SCHOOL

JAYANAGAR 9th BLOCK

FORMATIVE ASSESSMENT:

ACTIVITY NUMBER:

SUBJECT: Mathematics

Chapter: Introduction to trigonometry

Unit: Trigonometric ratios and values

Date:

Name of the student : _____

Roll number: _____ Class: _____ Section: _____

Distribution of marks – Activity

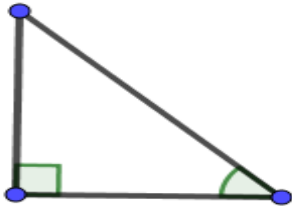
Serial No	Competencies	Marks allotted	Marks obtained
1	Able to label Opp, Adj and Hyp sides for the given triangles.	03	
2	Able to find trigonometric ratios for the given data.	03	
3	Able to find x value for the given data.	02	
4	Able to fill standard angle values in the table accurately.	04	
5	Able to find θ values for given problems.	03	
	TOTAL	15	

Signature of the student:

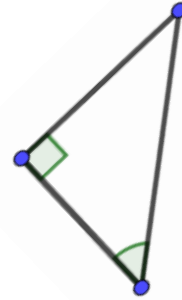
Signature of the teacher:

I Label the sides of the triangles given below with Opp for Opposite side, Adj for Adjacent side and Hyp for Hypotenuse:

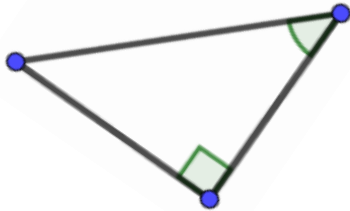
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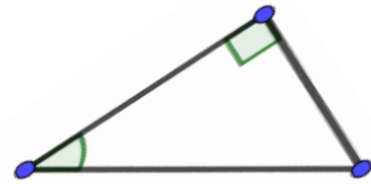
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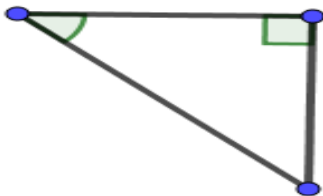
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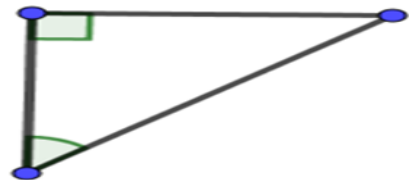
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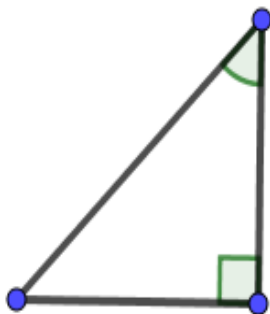
5)



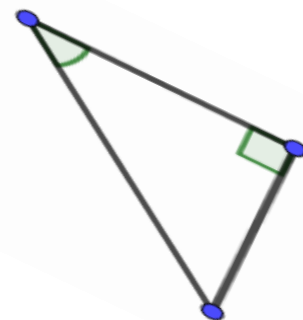
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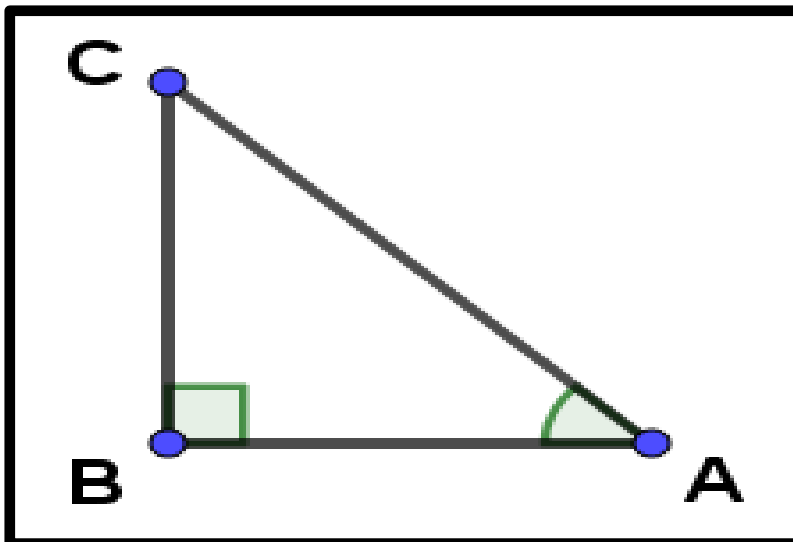
7)



8)



II Write the trigonometric ratios for the following ΔKLM :



In ΔABC , $\angle ABC = 90^\circ$

S C T

$AB \Rightarrow$ _____, $CB \Rightarrow$ _____, $AC \Rightarrow$ _____

$\sin A =$ -----

$=$ -----

$\operatorname{cosec} A =$ -----

$=$ -----

$\cos A =$ -----

$=$ -----

$\sec A =$ -----

$=$ -----

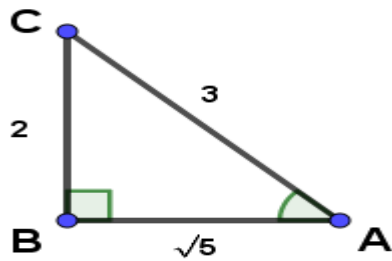
$\tan A =$ -----

$=$ -----

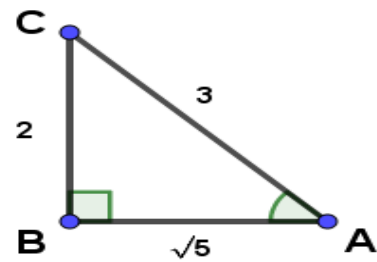
$\cot A =$ -----

$=$ -----

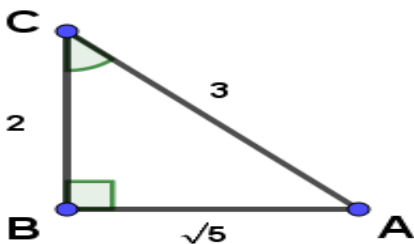
III Write trigonometric ratios from the given data for the following triangles:



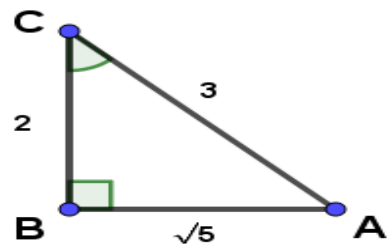
$\sin A = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{2}{3}$



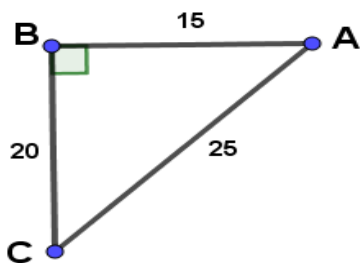
$\tan A = \frac{\text{opposite}}{\text{adjacent}} = \frac{2}{\sqrt{5}}$



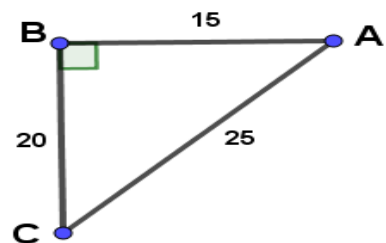
$\cot C = \frac{\text{adjacent}}{\text{opposite}} = \frac{\sqrt{5}}{2}$



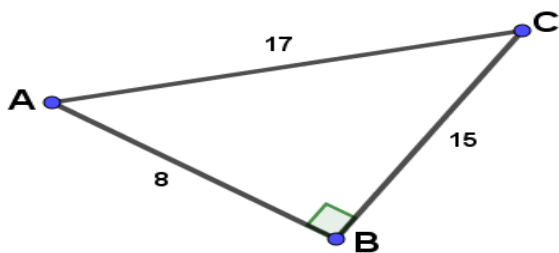
$\sec C = \frac{\text{hypotenuse}}{\text{adjacent}} = \frac{3}{\sqrt{5}}$



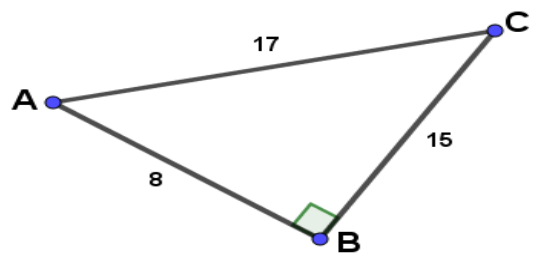
$\cos C = \frac{\text{adjacent}}{\text{hypotenuse}} = \frac{15}{25}$



$\tan B = \frac{\text{opposite}}{\text{adjacent}} = \frac{20}{15}$



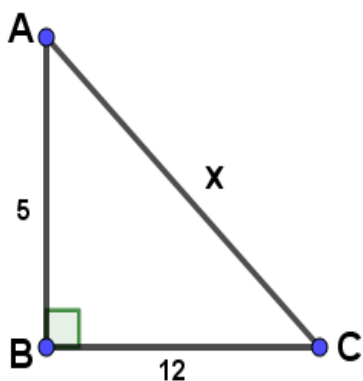
$\operatorname{cosec} C = \frac{\text{hypotenuse}}{\text{opposite}} = \frac{17}{8}$



$\sin A = \frac{\text{opposite}}{\text{hypotenuse}} = \frac{8}{17}$

IV Find the value of x for the following triangles:

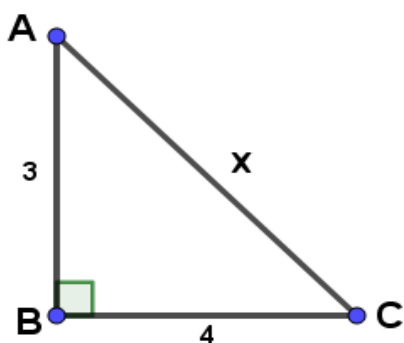
1)



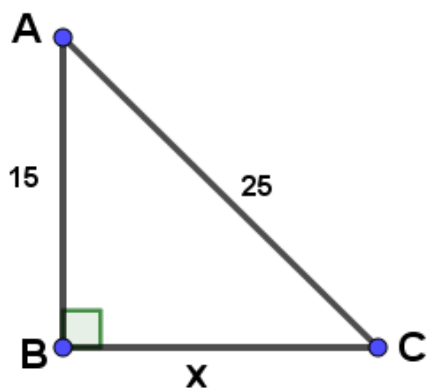
In triangle ABC, $\angle B = 90^\circ$

Applying Pythagoras theorem, we get

2)



3)



V Fill the space given below of the table with values of trigonometric ratios for the standard angles:

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

VI From the help of above table, find the value of θ ($0 \leq \theta \leq 90^\circ$):

<p>1) $\sqrt{2} \cos \theta = 1$ <u>Solution:</u> $\sqrt{2} \cos \theta = 1$ $\cos \theta = \frac{1}{\sqrt{2}}$ $\theta =$</p>	<p>2) $\sqrt{3} \tan \theta = 1$ <u>Solution:</u></p>
<p>3) $2 \sin \theta = \sqrt{3}$ <u>Solution:</u></p>	<p>4) $\sqrt{3} \operatorname{cosec} \theta = 2$ <u>Solution:</u></p>
<p>5) $\sqrt{3} \sec \theta = 2$ <u>Solution:</u></p>	<p>6) $\cot \theta = \sqrt{3}$ <u>Solution:</u></p>