

T2- Trigonometry
Model Question Paper V
 9th Standard

Maths

Reg.No. :

I. Answer all the questions

Time : 01:40:00 Hrs

Total Marks : 45

10 x 1 = 10

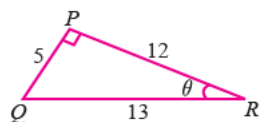
Part-A

- 1) If $x = \frac{2\tan 30^\circ}{1 - \tan^2 30^\circ}$ then the value of x is
 (a) $\tan 45^\circ$ (b) $\tan 30^\circ$ (c) $\tan 60^\circ$ (d) $\tan 90^\circ$
- 2) The value of $2 \sin 30^\circ \cos 30^\circ$ is equal to
 (a) $\tan 30^\circ$ (b) $\cos 60^\circ$ (c) $\sin 60^\circ$ (d) $\cot 60^\circ$
- 3) $\cos 60^\circ \cos 30^\circ - \sin 60^\circ \sin 30^\circ$ is equal to
 (a) $\cos 90^\circ$ (b) $\operatorname{cosec} 90^\circ$ (c) $\sin 30^\circ + \cos 30^\circ$ (d) $\tan 90^\circ$
- 4) the value of $\frac{\sin 27^\circ}{\cos 63^\circ}$ is
 (a) 0 (b) 1 (c) $\tan 27^\circ$ (d) $\cot 63^\circ$
- 5) If $\cos x = \sin 43^\circ$, then the value of x is
 (a) 57° (b) 43° (c) 47° (d) 90°
- 6) The value of $\sec 29^\circ - \operatorname{cosec} 61^\circ$ is
 (a) 1 (b) 0 (c) $\sec 60^\circ$ (d) $\operatorname{cosec} 29^\circ$
- 7) The value of $\sin 60^\circ \cos 30^\circ + \cos 60^\circ \sin 30^\circ$ is equal to
 (a) $\sec 90^\circ$ (b) $\tan 90^\circ$ (c) $\cos 60^\circ$ (d) $\sin 90^\circ$
- 8) the value of $\tan 26^\circ \cot 64^\circ$ is
 (a) $\frac{1}{2}$ (b) $\frac{\sqrt{3}}{2}$ (c) 0 (d) 1
- 9) The value of $\sin 60^\circ - \cos 30^\circ$ is
 (a) 0 (b) $\frac{1}{\sqrt{2}}$ (c) $\frac{\sqrt{3}}{2}$ (d) 1
- 10) The value of $\cos^2 30^\circ - \sin^2 30^\circ$ is
 (a) $\cos 60^\circ$ (b) $\sin 60^\circ$ (c) 0 (d) 1

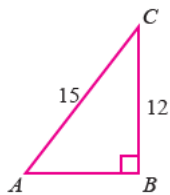
Part-B

10 x 2 = 20

- 11) from the figure In the right triangle PQR as shown at right, find the six trigonometric ratios of the angle θ



- 12) In $\triangle ABC$, right angled at B, $15 \sin A = 12$. Find the other five trigonometric ratios of the angle A. Also find the six ratios of the angle C



- 13) If $\tan \theta = \frac{20}{21}$, show that $\frac{1 - \sin \theta + \cos \theta}{1 + \sin \theta + \cos \theta} = \frac{3}{7}$
- 14) Evaluate $\frac{12\cos^2 30^\circ - 2\tan^2 60^\circ}{4\sec^2 45^\circ}$
- 15) Evaluate $\frac{\tan 25^\circ}{\cot 65^\circ}$
- 16) If $\sin A = \cos 33^\circ$ find A
- 17) Find the value of $\cos 37^\circ 16'$
- 18) If $\sin \theta = 0.0987$, find the angle θ
- 19) Simplify $\cos 70^\circ 12' + \tan 48^\circ 54'$.
- 20) Find the length of the side of a regular polygon of 9 sides inscribed in a circle of radius 8 units

Part-C

5 x 3 = 15

- 21) In $\triangle ABC$, right angled at B, $AB = 10$ and $AC = 26$. Find the six trigonometric ratios of the angles A and C.
- 22) if $\tan \theta = \frac{a}{b}$ find, $\sin^2 \theta + \cos^2 \theta$

23) Simplify

(i) $\cos 38^\circ \cos 52^\circ - \sin 38^\circ \sin 52^\circ$

24) Find the length of the chord of a circle of radius 5 cm subtending an angle of 108° at the centre.

25) Evaluate

$$\frac{4\cot^2 60^\circ + \sec^2 30^\circ - 2\sin^2 45^\circ}{\sin^2 60^\circ + \cos^2 45^\circ}$$

