



1. $\frac{1 - \tan^2 10^\circ}{1 + \tan^2 10^\circ} =$

- (i) $\cot 20^\circ$ (ii) $\sin 20^\circ$ (iii) $\tan 20^\circ$ (iv) $\cos 20^\circ$

2. If $\sin 2B = 2\sin B$, then $B =$

- (i) 90° (ii) 0° (iii) 30° (iv) 45° (v) 60°

3. If $\sin(B + C) = \frac{1}{2}\sqrt{3}$ and $\sin(B - C) = \frac{1}{2}$, find B & C

- (i) $B=47^\circ, C=17^\circ$ (ii) $B=45^\circ, C=15^\circ$ (iii) $B=44^\circ, C=14^\circ$ (iv) $B=46^\circ, C=16^\circ$ (v) $B=43^\circ, C=13^\circ$

4. If $\tan(H + I) = \sqrt{3}$ and $\tan(H - I) = \frac{1}{\sqrt{3}}$, find H & I

- (i) $H=44^\circ, I=14^\circ$ (ii) $H=47^\circ, I=17^\circ$ (iii) $H=43^\circ, I=13^\circ$ (iv) $H=45^\circ, I=15^\circ$ (v) $H=46^\circ, I=16^\circ$

5. In $\triangle ABC$, right angled at B , if $\tan A = \frac{4}{5}$, find $\sin A \cos C + \cos A \sin C$

- (i) $\frac{1}{4}\sqrt{41}$ (ii) $\frac{1}{5}\sqrt{41}$ (iii) $\frac{4}{41}\sqrt{41}$ (iv) 1 (v) $\frac{5}{41}\sqrt{41}$

6. In $\triangle FGH$, right angled at G , if $\tan F = \frac{1}{2}$, find $\cos F \cos H - \sin F \sin H$

- (i) 0 (ii) $\frac{1}{5}\sqrt{5}$ (iii) $\frac{1}{2}\sqrt{5}$ (iv) $\frac{2}{5}\sqrt{5}$ (v) $\sqrt{5}$

7. If $\cot \theta = \frac{5}{9}$, find $\frac{(1 + \sin \theta)(1 - \sin \theta)}{(1 - \cos \theta)(1 + \cos \theta)}$

- (i) $\frac{1}{3}$ (ii) $\frac{23}{81}$ (iii) $\frac{25}{81}$ (iv) $\frac{25}{79}$ (v) $\frac{25}{83}$

8. If $\tan \theta = \frac{1}{2}$, find $\frac{(1 + \cos \theta)(1 - \cos \theta)}{(1 + \sin \theta)(1 - \sin \theta)}$

- (i) $\frac{1}{4}$ (ii) $\frac{3}{4}$ (iii) $(-\frac{1}{4})$ (iv) $\frac{1}{2}$ (v) $\frac{1}{6}$

9. Find the value of $8\sec^2 \theta - 8\tan^2 \theta$

- (i) 1 (ii) 0 (iii) 11 (iv) 8 (v) 6

10. Find the value of $(1 + \tan\theta + \sec\theta)(1 + \cot\theta - \operatorname{cosec}\theta)$

- (i) 0 (ii) 1 (iii) 2 (iv) 5 (v) 3

11. Given $A = 45^\circ$, $B = 30^\circ$, find $\tan 75^\circ$

- (i) $(-1 + \sqrt{3})$ (ii) $(5 + \sqrt{3})$ (iii) $(2 + \sqrt{3})$ (iv) $(2 - \sqrt{3})$ (v) $(2 + 3)$

12. Given $A = 45^\circ$, $B = 30^\circ$, find $\tan 15^\circ$

- (i) $(4 - \sqrt{3})$ (ii) $(2 + \sqrt{3})$ (iii) $(2 - 3)$ (iv) $(0 - \sqrt{3})$ (v) $(2 - \sqrt{3})$

13. If $\tan\theta + \cot\theta = 7$, find $\tan^2\theta + \cot^2\theta$

- (i) 46 (ii) 48 (iii) 47 (iv) 45 (v) 49

14. If $\tan\theta - \cot\theta = 8$, find $\tan^2\theta + \cot^2\theta$

- (i) 63 (ii) 66 (iii) 67 (iv) 68 (v) 65

15. If $\sin 4x = \cos((x+50))$, then $x =$

- (i) 11 (ii) 6 (iii) 7 (iv) 9 (v) 8

16. If $\cos 4x = \sin((x+50))$, then $x =$

- (i) 8 (ii) 11 (iii) 6 (iv) 9 (v) 7

17. If $\tan 5x = \cot((x+36))$, then $x =$

- (i) 10 (ii) 11 (iii) 9 (iv) 7 (v) 8

18. If $\cot 5x = \tan((x+42))$, then $x =$

- (i) 7 (ii) 9 (iii) 8 (iv) 11 (v) 6

19. If $\sec 6x = \operatorname{cosec}((x+48))$, then $x =$

- (i) 5 (ii) 7 (iii) 3 (iv) 9 (v) 6

20. If $\operatorname{cosec} 6x = \sec((x+20))$, then $x =$

- (i) 8 (ii) 12 (iii) 11 (iv) 9 (v) 10

21. If R, S and T are the interior angles of a triangle, then $\sin\left(\frac{R+S}{2}\right) =$

- (i) $\cos\left(\frac{T}{2}\right)$ (ii) $\sin\left(\frac{R}{2}\right)$ (iii) $\sin\left(\frac{T}{2}\right)$ (iv) $\sin T$ (v) $\cos\left(\frac{R}{2}\right)$

Assignment Key

1) (iv)	2) (ii)	3) (ii)	4) (iv)	5) (iv)	6) (i)
7) (iii)	8) (i)	9) (iv)	10) (iii)	11) (iii)	12) (v)
13) (iii)	14) (ii)	15) (v)	16) (i)	17) (iii)	18) (iii)
19) (v)	20) (v)	21) (i)			