EduSahara™ Assignment

Name : Finding Values

Chapter : Introduction to Trigonometry

Grade : CBSE Grade X

1. $\frac{1-\tan^2 40°}{1+\tan^2 40°} =$

(i) $\cot 80°$ (ii) $\sin 80°$ (iii) $\cos 80°$ (iv) $\tan 80°$

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

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

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

(i) G=43°,H=13° (ii) G=45°,H=15° (iii) G=44°,H=14° (iv) G=47°,H=17° (v) G=46°,H=16°

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

(i) A=46°,B=16° (ii) A=43°,B=13° (iii) A=44°,B=14° (iv) A=47°,B=17° (v) A=45°,B=15°

5. In $\triangle MNO$, right angled at N, if $\tan M = \frac{3}{7}$, find $\sin M \cos O + \cos M \sin O$

(i) 1 (ii) $\frac{3}{58}\sqrt{58}$ (iii) $\frac{1}{3}\sqrt{58}$ (iv) $\frac{1}{7}\sqrt{58}$ (v) $\frac{7}{58}\sqrt{58}$

6. In $\triangle JKL$, right angled at K, if $\tan J = \frac{1}{2}$, find $\cos J \cos L - \sin J \sin L$

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

7. If $\cot\theta = \frac{3}{5}$, find $\frac{(1+\sin\theta)(1-\sin\theta)}{(1-\cos\theta)(1+\cos\theta)}$

(i) $\frac{9}{23}$ (ii) $\frac{1}{3}$ (iii) $\frac{7}{25}$ (iv) $\frac{11}{25}$ (v) $\frac{9}{25}$

8. If $\tan\theta = \frac{3}{4}$, find $\frac{(1+\cos\theta)(1-\cos\theta)}{(1+\sin\theta)(1-\sin\theta)}$

(i) $\frac{9}{16}$ (ii) $\frac{9}{14}$ (iii) $\frac{11}{16}$ (iv) $\frac{1}{2}$ (v) $\frac{7}{16}$

9. Find the value of $7\sec^2\theta - 7\tan^2\theta$

(i) 1 (ii) 10 (iii) 7 (iv) 5 (v) 0

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

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

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

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

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

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

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

(i) 65 (ii) 63 (iii) 61 (iv) 62 (v) 60

14. If $\tan\theta - \cot\theta = 5$, find $\tan^2\theta + \cot^2\theta$

(i) 26 (ii) 29 (iii) 27 (iv) 28 (v) 24

15. If $\sin 6x = \cos((x+55))$, then $x =$

(i) 7 (ii) 3 (iii) 6 (iv) 5 (v) 4

16. If $\cos 8x = \sin x$, then $x =$

(i) 10 (ii) 11 (iii) 9 (iv) 7 (v) 13

17. If $\tan 6x = \cot((x+27))$, then $x =$

(i) 9 (ii) 10 (iii) 6 (iv) 12 (v) 8

18. If $\cot 7x = \tan((x+26))$, then $x =$

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

19. If $\sec 7x = \operatorname{cosec}((x+26))$, then $x =$

(i) 6 (ii) 8 (iii) 7 (iv) 9 (v) 10

20. If $\operatorname{cosec} 4x = \sec((x+40))$, then $x =$

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

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

(i) $\sin(\frac{P}{2})$ (ii) $\cos(\frac{P}{2})$ (iii) $\sin R$ (iv) $\sin(\frac{R}{2})$ (v) $\cos(\frac{R}{2})$

Assignment Key

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