EduSahara™ Assignment

Name : Finding Values

Chapter : Introduction to Trigonometry

Grade : CBSE Grade X

1. $\frac{1-\tan^2 80°}{1+\tan^2 80°} =$

(i) $\cot 160°$ (ii) $\cos 160°$ (iii) $\tan 160°$ (iv) $\sin 160°$

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

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

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

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

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

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

5. In $\triangle CDE$, right angled at D, if $\tan C = \frac{2}{3}$, find $\sin C \cos E + \cos C \sin E$

(i) 1 (ii) $\frac{2}{13}\sqrt{13}$ (iii) $\frac{1}{2}\sqrt{13}$ (iv) $\frac{3}{13}\sqrt{13}$ (v) $\frac{1}{3}\sqrt{13}$

6. In $\triangle DEF$, right angled at E, if $\tan D = \frac{4}{9}$, find $\cos D \cos F - \sin D \sin F$

(i) $\frac{9}{97}\sqrt{97}$ (ii) $\frac{1}{9}\sqrt{97}$ (iii) 0 (iv) $\frac{1}{4}\sqrt{97}$ (v) $\frac{4}{97}\sqrt{97}$

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

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

8. If $\tan\theta = \frac{1}{7}$, find $\frac{(1+\cos\theta)(1-\cos\theta)}{(1+\sin\theta)(1-\sin\theta)}$

(i) $\frac{3}{49}$ (ii) $(\frac{-1}{49})$ (iii) $\frac{1}{47}$ (iv) $\frac{1}{51}$ (v) $\frac{1}{49}$

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

(i) 9 (ii) 5 (iii) 1 (iv) 7 (v) 0

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

(i) (-1) (ii) 4 (iii) 3 (iv) 1 (v) 2

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

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

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

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

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

(i) 60 (ii) 61 (iii) 64 (iv) 63 (v) 62

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

(i) 66 (ii) 65 (iii) 64 (iv) 68 (v) 67

15. If $\sin 4x = \cos((x+55))$, then $x =$

(i) 8 (ii) 7 (iii) 10 (iv) 5 (v) 6

16. If $\cos 6x = \sin((x-8))$, then $x =$

(i) 13 (ii) 14 (iii) 17 (iv) 11 (v) 15

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

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

18. If $\cot 7x = \tan((x-14))$, then $x =$

(i) 12 (ii) 15 (iii) 14 (iv) 10 (v) 13

19. If $\sec 5x = \operatorname{cosec}((x+60))$, then $x =$

(i) 5 (ii) 3 (iii) 8 (iv) 6 (v) 4

20. If $\operatorname{cosec} 5x = \sec((x+48))$, then $x =$

(i) 8 (ii) 4 (iii) 7 (iv) 6 (v) 10

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

(i) $\cos(\frac{X}{2})$ (ii) $\sin(\frac{V}{2})$ (iii) $\sin X$ (iv) $\sin(\frac{X}{2})$ (v) $\cos(\frac{V}{2})$

Assignment Key

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