EduSahara™ Assignment

Name : Finding Values

Chapter : Introduction to Trigonometry

Grade : CBSE Grade X

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

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

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

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

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

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

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

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

5. In $\triangle NOP$, right angled at O, if $\tan N = \frac{5}{9}$, find $\sin N \cos P + \cos N \sin P$

(i) 1 (ii) $\frac{5}{106}\sqrt{106}$ (iii) $\frac{9}{106}\sqrt{106}$ (iv) $\frac{1}{5}\sqrt{106}$ (v) $\frac{1}{9}\sqrt{106}$

6. In $\triangle ABC$, right angled at B, if $\tan A = \frac{1}{2}$, find $\cos A \cos C - \sin A \sin C$

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

7. If $\cot\theta = \frac{2}{3}$, find $\frac{(1+\sin\theta)(1-\sin\theta)}{(1-\cos\theta)(1+\cos\theta)}$

(i) $\frac{2}{3}$ (ii) $\frac{2}{9}$ (iii) $\frac{4}{7}$ (iv) $\frac{4}{9}$ (v) $\frac{4}{11}$

8. If $\tan\theta = \frac{2}{3}$, find $\frac{(1+\cos\theta)(1-\cos\theta)}{(1+\sin\theta)(1-\sin\theta)}$

(i) $\frac{2}{3}$ (ii) $\frac{4}{9}$ (iii) $\frac{4}{11}$ (iv) $\frac{2}{9}$ (v) $\frac{4}{7}$

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

(i) 4 (ii) 10 (iii) 1 (iv) 7 (v) 0

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

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

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

(i) $(2+3)$ (ii) $(0+\sqrt{3})$ (iii) $(5+\sqrt{3})$ (iv) $(2+\sqrt{3})$ (v) $(2-\sqrt{3})$

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

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

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

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

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

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

15. If $\sin 4x = \cos((x+30))$, then $x =$

(i) 10 (ii) 15 (iii) 11 (iv) 13 (v) 12

16. If $\cos 8x = \sin((x-36))$, then $x =$

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

17. If $\tan 5x = \cot((x+6))$, then $x =$

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

18. If $\cot 6x = \tan((x-8))$, then $x =$

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

19. If $\sec 5x = \operatorname{cosec}((x+54))$, then $x =$

(i) 7 (ii) 3 (iii) 5 (iv) 8 (v) 6

20. If $\operatorname{cosec} 8x = \sec((x-27))$, then $x =$

(i) 10 (ii) 13 (iii) 12 (iv) 14 (v) 16

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

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

Assignment Key

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