Transweb Educational Services Pvt Ltd
B -147, Sector -6 Noida, UP - 201301,
www.askiitians.com
Email: info@askiitians.com
Tel: 1800-2000-838

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Class: X
Subject: Math's
Topic: Trigonometry
No. of Questions: 20

Q.1 If $\sin x = (a^2 - b^2)/(a^2 + b^2)$, find $\tan x$.

Q.2 If $\operatorname{cosec} x = 2$, find the value of $1/\tan x + \sin x/(1+\cos x)$

Q.3 In ΔABC, right angled at C, if $\tan A = 1/\sqrt{3}$, find the value of $\sin A \cos B + \cos A \sin B$. (CBSE-2008)

Q.4 If $\sin B = 1/2$, find the value of $3\cos B - 4\cos^2 B$

Q.5 If $\sin x = 4/5$, find the value of $\dfrac{4\tan x - 5\cos x}{\sec x + 4\cot x}$

Q.6 Given $16\cot A = 12$, find the value of $\dfrac{\sin A + \cos A}{\sin A - \cos A}$

Q.7 If $\tan x = 12/13$, evaluate $(2\sin x \cos x)/(\cos^2 x - \sin^2 x)$

Q.8 Find the value of $2(\cos^2 45^0 + \tan^2 60^0) - 6(\sin^2 45^0 - \tan^2 30^0)$

Q.9 Find the value of x in $\tan 3x = \sin 45^0 \cos 45^0 + \sin 30^0$

Q.10 Find the acute angle x. when $(\cos x - \sin x)/(\cos x + \sin x) = (1 - \sqrt{3})/(1 + \sqrt{3})$

Q.11 If $\sin(A + B) = 1$ and $\cos(A - B) = \sqrt{3}/2$, $0^0 < A+B \leq 90^0$, $A > B$ then find A and B.

Q.12 If x is an acute angle and $\sin x = \cos x$, find the value of $2\tan^2 x + \sin^2 x - 1$

Q.13 Given that $\sin(A+B) = \sin A \cos b + \cos A \sin B$, find the value of $\sin 75^0$.

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Q.14 If each of α, β and γ is appositive acute angle such that $\sin(\alpha + \beta + \gamma)=1/2$, $\cos(\beta + \gamma - \alpha)= 1/2$ and $\tan(\gamma + \alpha - \beta)=1$, find the values of α, β and γ.

Q.15 Evaluate $\cos(40^0 - x) - \sin(50^0 + x)+ (\cos^2 40^0 + \cos^2 50^0)/(\sin^2 40^0 + \sin^2 50^0)$

(CBSE-2002)

Q.16 Evaluate $\cot 12^0 \cot 38^0 \cot 52^0 \cot 60^0 \cot 78^0$

(CBSE-2001)

Q.17 Evaluate $\tan 1^0 \tan 2^0 \tan 3^0 \ldots\ldots \tan 89^0$.

Q.18 If $\sec 4A= \text{cosec}\ (A - 20^0)$, where 4A is an acute angle, find the value of A.

(CBSE-2008)

Q.19 Evaluate $\cot^2 x - 1/\sin^2 x$

Q.20 $(1 + \tan^2 x)(1 + \sin x)(1 - \sin x)$, find the value.