ADINIZ :

SOYADINIZ:

SINIFINIZ:

NUMARANIZ:

matbaz

Matematik

Trigo 2

NOT: HER SORUNUN TAM VE DOĞRU ÇÖZÜMÜ 10 PUANDIR. KISMI PUAN VERİLMEZ

ALDIĞI PUAN: .....

BAŞARI DİLEKLERİMİZLE...

1) $A+B+C=\pi$ olmak üzere,

$$\frac{\sin^2\left(\frac{A+C}{2}\right)+\sin^2\left(5\pi+\frac{B}{2}\right)}{\cot\left(\frac{\pi-A-B}{2}\right)\tan\left(\pi-\frac{C}{2}\right)}$$

ifadesinin en sade hali nedir?

$\sin^2\left(\frac{\pi}{2}-\frac{B}{2}\right)$ ← $\frac{\sin^2\left(\frac{\pi-B}{2}\right)+\sin^2\left(\pi+\frac{B}{2}\right)}{\cot\left(\frac{C}{2}\right)\cdot\tan\left(\pi-\frac{C}{2}\right)}$ → $\left[-\sin\frac{B}{2}\right]^2$

$\frac{\cos^2\frac{B}{2}+\sin^2\frac{B}{2}}{\cot\frac{C}{2}\cdot\left(-\tan\frac{C}{2}\right)}=\frac{1}{-1}=-1$

2) $\frac{\tan x+\sec x-\cos x}{\tan x+\sec x}$

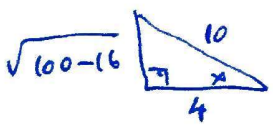
ifadesinin en sade hali nedir?

$\frac{\frac{\sin x}{\cos x}+\frac{1}{\cos x}-\cos x}{\frac{\sin x}{\cos x}+\frac{1}{\cos x}}$

$\frac{\frac{1+\sin x}{\cos x}-\cos x}{\frac{1+\sin x}{\cos x}}=\frac{\frac{1+\sin x-\cos^2 x}{\cos x}}{\frac{1+\sin x}{\cos x}}$ ($\sin^2 x$) $\cdot\frac{\cos x}{1+\sin x}$

$=\frac{\sin x(\sin x+1)}{1+\sin x}=\sin x$

3) $\cos x=0{,}4$ İse tanx in pozitif değeri kaçtır?



$\tan x=\frac{\sqrt{84}}{4}=\frac{2\sqrt{21}}{4}=\frac{\sqrt{21}}{2}$

4) $\sin^2 0°+\sin^2 1°+\sin^2 2°+.....+\sin^2 90°=?$

$\hookrightarrow \sin^2 89=\cos^2 1$

$\sin^2 88=\cos^2 2$

$0\leftrightarrow 90$

$1\leftrightarrow 89$

$2\leftrightarrow 88$

$44\leftrightarrow 46$

45 adet 1

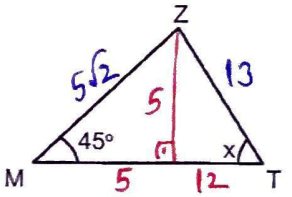
$(\sin^2 x+\cos^2 x=1)$

$45\cdot 1+\sin^2 45$

$45+\left(\frac{1}{\sqrt{2}}\right)^2=45+\frac{1}{2}$

$=\frac{91}{2}$

5) Şekildeki MTZ



üçgenin de $m(\widehat{ZMT})=45°$, $|ZM|=5\sqrt{2}$ br

$|ZT|=13$ br ise

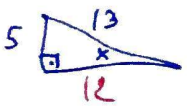
tanx kaçtır?

$\tan x=\frac{5}{12}$

2. yol

$\frac{5\sqrt{2}}{\sin x}=\frac{13}{\sin 45}$

$\sin x=\frac{5\sqrt{2}\cdot 1/\sqrt{2}}{13}=\frac{5}{13}$

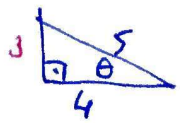


$\tan x=5/12$

6) $\tan\left(\arccos\frac{4}{5}\right)$ in eşiti kaçtır?

θ

$\cos\theta = \frac{4}{5}$



$\tan\theta = 3/4$

7) $f(x)=9+\sqrt{2}.\cos^{17}\left(\frac{-4x+5}{3}\right)$ fonksiyonun periyodu nedir?

$T = \frac{2\pi}{|a|} \Rightarrow T = \frac{2\pi}{\left|-\frac{4}{3}\right|} = \frac{3\pi}{2}$

8) $\cos^2 180° + \sin^3 210° + \tan^2 225° + \cot^3 315°$ işleminin sonucu kaçtır?

$\cos 180 = -1$

$\sin 210 = \sin(180+30) \rightarrow \sin 30 = -1/2$

$\tan 225 = \tan(180+45) = -\tan 45 = -1$

$\cot 315 = \cot(270+45) = -\tan 45 = -1$

$(-1)^2 + \left(-\frac{1}{2}\right)^3 + \underbrace{(-1)^2 + (-1)^3}_{0}$

$1 - \frac{1}{8} = \frac{7}{8}$

9) Uygun koşullarda a, b, c negatif sayılar olmak üzere, $\operatorname{cosec}x = \frac{a}{b}$, $\sec x = \frac{b}{c}$ ise a, b ve c sayılarının büyükten küçüğe sıralaması nasıldır?

$\frac{a}{b} \geq 1 \wedge \frac{b}{c} \geq 1$ (ondalar pozitif

$a \leq b \wedge b \leq c$

$a \leq b \leq c$

sayılar farklı ise

$a < b < c$

c, b, a (büyükten küçüğe sıralama)

$\sec x \geq 1$
$\operatorname{cosec} x \geq 1$
ya da
$\sec x \leq -1$
$\operatorname{cosec} x \leq -1$
idi

10) $\pi < x < \frac{5\pi}{4}$ olmak üzere,

$\sqrt{1 - \frac{\sin x . \cos x}{\sin 30}} + \sqrt{\sin^2 x} - \sqrt[3]{\underbrace{\sin^3\left(\frac{\pi}{2} - x\right)}_{\cos^3 x}}$

ifadesinin eşiti nedir?

$\sqrt{1 - 2\sin x \cos x} = \sqrt{(\sin x - \cos x)^2}$

$|\sin x - \cos x| + |\sin x| - \cos x$

$\sin x - \cos x - \sin x - \cos x$

$-2\cos x$