



1. Aşağıdakilerden hangileri doğrudur?

- I) $\sin(a + b) = \sin a \cdot \sin b + \cos a \cdot \cos b$
 II) $\cos(a + b) = \cos a \cdot \cos b - \sin a \cdot \sin b$
 III) $\cos(a - b) = \cos a \cdot \cos b + \sin a \cdot \sin b$

- A) I B) II C) II,III D) I,II E) I,II,III



2. $11x = \frac{\pi}{2}$ ise

$\frac{\sin 7x \cdot \cos 4x + \sin 4x \cdot \cos 7x}{\cos 23x \cdot \cos x + \sin 23x \cdot \sin x}$ kaç eştir?

- A) -1 B) $-\frac{\sqrt{2}}{3}$ C) $-\frac{\sqrt{2}}{2}$ D) $\frac{\sqrt{2}}{2}$ E) $\frac{\sqrt{3}}{2}$



3. $\sin 75 + \cos 75$ kaç eştir?

- A) $\sqrt{2}$ B) $\frac{\sqrt{2}}{3}$ C) $\frac{\sqrt{2}}{2}$ D) $\frac{\sqrt{6}}{3}$ E) $\frac{\sqrt{6}}{2}$



4. $\frac{\sin 6x}{\sin 3x} - \frac{\cos 6x}{\cos 3x}$ kaç eştir?

- A) 1 B) $\cot 9x$ C) $\tan 9x$ D) $\sin 3x$ E) $\sec 3x$



5. Aşağıdakilerden hangileri doğrudur?

- I) $\sin 3 \cdot \cos 2 + \sin 2 \cdot \cos 3 = \sin 1$
 II) $\cos 11 \cdot \cos 9 + \sin 11 \cdot \sin 9 = \cos 2$
 III) $\cos 22 \cdot \sin 19 - \sin 22 \cdot \cos 19 = -\sin 3$
 IV) $\sin 8 \cdot \sin 9 - \cos 8 \cdot \cos 9 = -\cos 1$

- A) I,III B) II,IV C) I,IV D) II,III E) I,II,IV



6. $\cos 12 + \sin 12 \cdot \tan 6$ işleminin sonucu kaçtır?

- A) $-\frac{1}{2}$ B) 0 C) 1 D) $\sqrt{3}$ E) 2



7. $x - y = \frac{2\pi}{3}$ ise

$(\cos x + \cos y)^2 + (\sin x + \sin y)^2$ işleminin sonucu kaç eştir?

- A) -1 B) 0 C) $\frac{1}{2}$ D) 1 E) $\frac{\sqrt{3}}{2}$



8. $\frac{\pi}{2} < x < \pi$

$\sin x = \frac{3}{5}$ $\sin y = \frac{4}{5}$ ise

$\sin(x + y)$ kaç eştir?

- A) -1 B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) 1 E) $\frac{4}{3}$





9. $\tan x = 2$ ve $\tan y = 1$ ise $\frac{\tan(x+y)}{\tan(x-y)}$ kaçadır?

- A) -9 B) -6 C) -3 D) $-\frac{1}{3}$ E) $-\frac{1}{12}$



10. $\frac{\tan 232^\circ - \tan 22^\circ}{1 + \tan 232^\circ \cdot \tan 22^\circ}$ işleminin sonucu kaçtır?

- A) $\frac{\sqrt{2}}{3}$ B) 1 C) $\frac{\sqrt{3}}{3}$ D) $\sqrt{3}$ E) $\sqrt{5}$



11. Bir ABC üçgeninde $\tan A = 4$ $\tan B = 3$ ise $\tan C$ kaçtır?

- A) $\frac{3}{4}$ B) $\frac{5}{9}$ C) $\frac{7}{11}$ D) 1 E) $\frac{3}{2}$

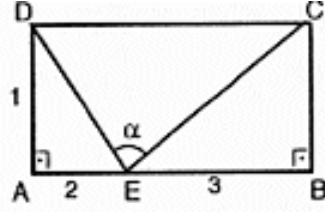


12. $\pi < x < \frac{3\pi}{2}$
 $\tan(x + 45^\circ) = -3$ ise $\sec x$ kaçtır?

- A) $-\sqrt{5}$ B) $-\frac{\sqrt{5}}{2}$ C) -2 D) -1 E) $-\frac{3}{2}$

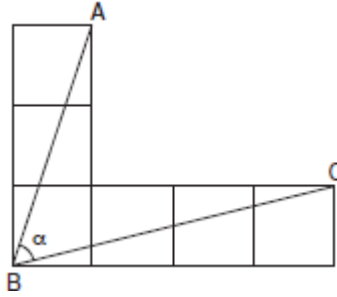


13. Yandaki ABCD dikdörtgeninde $\tan \alpha$ kaçtır?



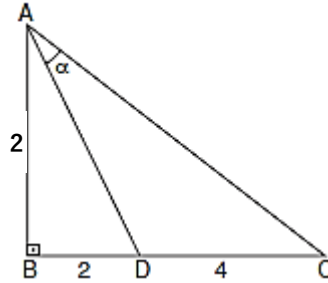
- A) $-\frac{\sqrt{2}}{2}$ B) -1 C) $-\frac{1}{2}$ D) $-\frac{3}{2}$ E) $-\frac{\sqrt{3}}{2}$

14. Yandaki eş karelerden oluşmuş şekilde $\tan \alpha$ kaçtır?



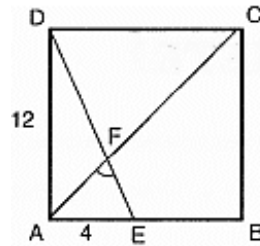
- A) $\frac{3}{2}$ B) $\frac{7}{3}$ C) $\frac{8}{5}$ D) $\frac{9}{5}$ E) $\frac{11}{7}$

15. Yandaki ABC dik üçgeninde $\tan \alpha$ kaçtır?



- A) $\frac{1}{2}$ B) $\frac{4}{7}$ C) $\frac{3}{4}$ D) 1 E) $\frac{5}{4}$

16. Yandaki karede verilenlere göre $\tan(\angle AFE)$ kaçtır?



- A) $\frac{\sqrt{5}}{5}$ B) $\frac{\sqrt{3}}{3}$ C) $\frac{\sqrt{2}}{2}$ D) 1 E) 2

