TRIGONOMETRIE : inéquations

Exercices de type cos x > a

Enoncés

$\sin x \geq -\frac{\sqrt{3}}{2}$

$\sin x \geq -\frac{\sqrt{2}}{2}$

$\cos x > \frac{\sqrt{3}}{2}$

$\cos x \leq -\frac{\sqrt{3}}{2}$

$\cos x \geq 0{,}5$

$tgx < 1$

$3tgx - \sqrt{3} \geq 0$

Solutions

$\bigcup_{k \in Z} [-\frac{p}{3} + k2p ; \frac{4p}{3} + k2p]$

$\bigcup_{k \in Z} [-\frac{p}{4} + k2p ; \frac{5p}{4} + k2p]$

$\bigcup_{k \in Z}]-\frac{p}{6} + k2p ; \frac{p}{6} + k2p[$

$\bigcup_{k \in Z} [\frac{5p}{6} + k2p ; \frac{7p}{6} + k2p]$

$\bigcup_{k \in Z} [-\frac{p}{3} + k2p ; \frac{p}{3} + k2p]$

$\bigcup_{k \in Z}]-\frac{p}{2} + kp ; \frac{p}{4} + kp]$

$\bigcup_{k \in Z} [\frac{p}{6} + kp ; \frac{p}{2} + kp[$

Exercices de type cos nx > a

Enoncés

$\cos 3x < 0{,}5$; $2\sin 4x + 1 \leq 0$; $\tan \frac{x}{2} \leq \sqrt{3}$; $\cot 2x \geq 3$

$\cos 2x \cos x - \sin 2x \sin x \geq \frac{\sqrt{3}}{2}$; $\frac{\cos 3x}{2} + \frac{\sqrt{3}\sin 3x}{2} < 0$

Solutions

$\bigcup_{k \in Z}]\frac{p}{9} + k\frac{2p}{3} , \frac{5p}{9} + k\frac{2p}{3}]$

$\bigcup_{k \in Z} [\frac{7p}{24} + k\frac{p}{2} , \frac{11p}{24} + k\frac{p}{2}]$

$\bigcup_{k \in Z}]-p + k2p , \frac{2p}{3} + k2p]$

$\bigcup_{k \in Z}]k\frac{p}{2} , \frac{p}{12} + k\frac{p}{2}]$

$\bigcup_{k \in Z} [-\frac{p}{18} + k\frac{2p}{3} , \frac{p}{18} + k\frac{2p}{3}]$

$\bigcup_{k \in}]k\frac{p}{2} , \frac{p}{12} + k\frac{p}{2}]$

Exercices du syllabus

cos x > √2/2 ; sin x < 0,5 ; sin x ≥ √3/2 ; tg x ≥ 1 ; tg x ≤ √3

cos x < - 0,5 ; sin x > - 1 ; tg x ≥ - √3/3 ; cotg x > 1

2 cos x + 1 > 0 ; 2 sin x + √3 ≤ 0 ; √3 tg x ≤ 1

$$\bigcup_{k\in Z}\left]-\frac{p}{4}+k2p,\frac{p}{4}+k2p\right[$$

$$\bigcup_{k\in Z}\left]\frac{5p}{6}+k2p,\frac{7p}{6}+k2p\right[$$

$$\bigcup_{k\in Z}\left[\frac{p}{3}+k2p,\frac{2p}{3}+k2p\right]$$

$$\bigcup_{k\in Z}\left[\frac{p}{4}+kp,\frac{p}{2}+kp\right[$$

$$\bigcup_{k\in Z}\left]-\frac{p}{2}+kp,\frac{p}{3}+kp\right]$$

$$\bigcup_{k\in Z}\left]\frac{4p}{3}+k2p,\frac{5p}{3}+k2p\right[$$

$$R/\left\{\frac{3p}{2}+k2p\right\}$$

$$\bigcup_{k\in Z}\left[-\frac{p}{6}+kp,\frac{p}{2}+kp\right[$$

$$\bigcup_{k\in Z}\left]0+kp,\frac{p}{4}+kp\right[$$

$$\bigcup_{k\in Z}\left]\frac{-2p}{3}+k2p,\frac{4p}{3}+k2p\right[$$

$$\bigcup_{k\in Z}\left[\frac{4p}{3}+k2p,\frac{5p}{3}+k2p\right]$$

$$\bigcup_{k\in Z}\left]-\frac{p}{2}+kp,\frac{p}{6}+kp\right]$$

$\cos 3x \geq 1/2$; $3tg2x < \sqrt{3}$; $\sin 2x > -\frac{\sqrt{2}}{2}$

$\bigcup_{k\in Z}[\frac{p}{9}+k\frac{2p}{3},\frac{5p}{9}+k\frac{2p}{3}]$; $\bigcup_{k\in Z}]-\frac{p}{4}+k\frac{p}{2},\frac{p}{12}+k\frac{p}{2}]$; $\bigcup_{k\in Z}[-\frac{p}{8}+kp,\frac{5p}{8}+kp]$