ECUACIONES Y SISTEMAS TRIGONOMÉTRICOS

Resolver las siguientes ecuaciones trigonométricas:

1. $sen2x = \cos 60^o$

2. $tg2x = -tgx$

3. $sen^2 x - \cos^2 x = 1/2$

4. $senx = sen(45^o - x)$

5. $sen(x + 45^o) = \frac{\sqrt{3}}{2}$

6. $senx + \sqrt{3}\cos x = 2$

7. $tgx \cdot \sec x = \sqrt{2}$

8. $\frac{sen^2 x}{2} = \frac{tgx}{4}$

9. $4tgx = \frac{\sqrt{3}}{\cos^2 x}$

10. $tg(x - 45^o) + tg(x + 45^o) = 2ctgx$

11. $\cos x \cdot \cos 2x + 2\cos^2 x = 0$

12. $\cos 2x + senx = 4sen^2 x$

13. $2tgx - 3ctgx - 1 = 0$

14. $sen2x \cdot \cos x = 6sen^3 x$

15. $\cos x = \frac{2tgx}{1 + tg^2 x}$

16. $3\cos x = 2\sec x - 5$

17. $\frac{sen(x + 30^o)}{\cos(x + 60^o)} = 1$

18. $4sen\frac{x}{2} + 2\cos x = 3$

19. $4sen(x - 30^o)\cos(x - 30^o) = \sqrt{3}$

20. $tg\frac{x}{2} = \frac{tgx - 2}{tgx + 2}$

21. $3sen^2 x - 5senx + 2 = 0$

22. $\cos 2x = 5 - 6\cos^2 x$

23. $\cos 2x + 5\cos x + 3 = 0$

24. $\frac{\cos x}{tgx} = \frac{3}{2}$

25. $sen6x + sen2x = 2sen4x$

26. $\cos 2x + \cos x = senx + sen2x$

27. $\cos 2x - \cos 6x = sen5x + sen3x$

28. $\cos 8x + \cos 6x = 2\cos 210^\circ \cdot \cos x$

29. $4sen(x - 30^\circ) \cdot \cos(x - 30^\circ) = \sqrt{3}$

30. $\cos 4x + \cos 2x = sen4x - sen2x$

Resolver los siguientes sistemas de ecuaciones trigonométricos

1. $\begin{cases} senx + \cos y = \sqrt{2} \\ \cos ecx + \sec y = 2\sqrt{2} \end{cases}$

2. $\begin{cases} senx \cos y = 3/4 \\ \cos x seny = 1/4 \end{cases}$

3. $\begin{cases} senx + seny = \frac{\sqrt{3}+1}{2} \\ senx - seny = \frac{\sqrt{3}-1}{2} \end{cases}$

4. $\begin{cases} tgx + tgy = 1 \\ ctg(x + y) = 3/4 \end{cases}$

5. $\begin{cases} senx + seny = 3/2 \\ \cos\frac{x - y}{2} = \frac{\sqrt{3}}{2} \end{cases}$

6. $\begin{cases} tg2x = \cot gy \\ tgx = ctg2y \end{cases}$

7. $\begin{cases} sen(x + y) - \cos x \cos y = 0 \\ tgy = 1 \end{cases}$

8. $\begin{cases} \cos(x + y) = 1/2 \\ \cos(x - y) = 1/2 \end{cases}$

9. $\begin{cases} senx + seny = 1 \\ 2x + 2y = 180^o \end{cases}$

10. $\begin{cases} senx = \sqrt{2}seny \\ tgx = \sqrt{3}tgy \end{cases}$

11. $\begin{cases} x + y = \frac{2\pi}{3} \\ senx - seny = 0'5 \end{cases}$

12. $\begin{cases} x + y = \pi/4 \\ \sqrt{2}\cos x \cos y = 1 \end{cases}$