

Trigonometría

Resuelve las siguientes igualdades trigonométricas:

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

2) $\frac{1}{\csc^2 x} + \cos^2 x = 1$

3) $\tan^2 x + \sin x \csc x = \sec^2 x$

4) $\frac{\cos^2 x}{\sin^2 x} + 1 = \csc^2 x$

5) $\sin^2 x + \cos^2 x = \cos x \sec x$

6) $\tan^2 x + \tan x \cot x = \sec^2 x$

7) $\frac{\sin^2 x}{\cos^2 x} + 1 = \sec^2 x$

8) $\sin^2 x + \frac{1}{\sec^2 x} = 1$

9) $\tan^2 x \cos x + \cos^2 x = 1$

10) $\sin^2 x + \frac{\sin^2 x}{\tan^2 x} = 1$

11) $\frac{1}{\cos x \csc x} = \tan x$

12) $\cos x \csc x = \cot x$

13) $\frac{1}{\sin x \sec x} = \cot x$

14) $\frac{1}{\tan^2 x} + 1 = \csc^2 x$

15) $\cot^2 x + \frac{1}{\tan x \cot x} = \csc^2 x$

16) $\cot^2 x + \frac{1}{\cos x \sec x} = \csc^2 x$

17) $\tan^2 x + \frac{1}{\sin x \csc x} = \sec^2 x$

18) $\cot^2 x + \sin^2 x + \cos^2 x = \csc^2 x$

Resuelve las siguientes igualdades trigonométricas:

1) $\frac{\sin x}{\csc x} + \frac{\cos x}{\sec x} = 1$

2) $\frac{\sec x}{\tan x + \cot x} = \sin x$

3) $\frac{1 - \sin x}{\cos x} = \frac{\cos x}{1 + \sin x}$

4) $\frac{1 - \cos x}{\sin x} = \frac{\sin x}{1 + \cos x}$

5) $\frac{1}{\sec - \tan x} = \sec x + \tan x$

6) $\frac{1}{\csc x - \cot x} = \csc x + \frac{1}{\tan x}$

7) $\frac{\cot^2 x}{\csc x - 1} = \csc x + \sin^2 x + \cos^2 x$

8) $\frac{\tan x - \sin x}{\sin^3 x} = \frac{\sec x}{1 + \cos x}$

9) $\tan x + \cot x = \frac{1}{\sin x \cos x}$

10) $\sec x + \cos^2 x = \frac{1}{\cos x} + \frac{1}{\sec^2 x}$

11) $\frac{\csc x}{\tan x + \cot x} = \cos x$

12) $(1 - \sin^2 x)(1 + \tan^2 x) = 1$

13) $\frac{1}{1 + \sin x} + \frac{1}{1 - \sin x} = 2 \sec^2 x$

14) $\sin x + \cos x = \cos x(1 + \tan x)$

15) $\cot^2 x + \frac{1}{\cos x \sec x} = \csc^2 x$

16) $\frac{\sin^2 x + \cos^2 x}{\sec x + \tan x} = \sec x - \tan x$

17) $\tan^2 x + \frac{1}{\sin x \csc x} = \sec^2 x$

18) $\cot^2 x + \sin^2 x = \csc^2 x - \cos^2 x$

Resuelve las siguientes ecuaciones trigonométricas:

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| 1. $4 \cos^2 x - 3 = 0$
2. $16 \cos^4 \varphi - 9 = 0$
3. $2 \sen^2 x = -\sen x$
4. $2 \cos^2 x = \sen x - 1$
5. $\frac{\tan x}{\cot x} = 1$
6. $2 \sen \theta + \cos^2 \theta = \frac{7}{4}$
7. $2 \sen x - 1 = 0$
8. $\sen x \cdot \cos x = 0$
9. $(\tan x - 1)(4 \sen^2 x - 3) = 0$
10. $3 \cos^2 x = \sen^2 x$
11. $2 \sen x - \csc x = 1$
12. $2 \sec \theta = \tan \theta + \cot \theta$
13. $\sec^2 x - 4 = 0$
14. $\sqrt{3} + 2 \sen \theta = 0$
15. $\cot^2 x - 3 = 0$
16. $(2 \sen \phi + 1)(2 \cos \phi + 3) = 0$
17. $2 - 8 \cos^2 \mu = 0$
18. $2 \sen^2 \theta = 1 - \sen \theta$
19. $\tan^2 x \cdot \sen x = \sen x$
20. $2 \cos^2 \phi + \cos \phi = 0$
21. $\sen^2 \theta + \sen \theta - 6 = 0$
22. $2 \cos^3 \theta - \cos \theta = 0$
23. $2 \cos \phi + \tan \phi = \sec \phi$
24. $\sen \psi = \tan$
25. $\sec^5 \alpha = 4 \sec \alpha$
26. $\cos \theta \cdot \cot^2 \theta = \cos \theta$
27. $3 \sen \beta = 2 \cos^2 \beta$ | 28. $\sen \phi + \cos^2 \phi = \frac{1}{4}$
29. $\sen^4 \phi - \cos^4 \phi = \frac{1}{2}$
30. $4 \cos \psi \sen \psi + 2 \sen \psi - 2 \cos \psi - 1 = 0$
31. $4 \sen^2 \alpha + 8 \sen \alpha + 3 = 0$
32. $\cos^2 \epsilon - \sen^2 \epsilon + \cos \epsilon + 1 = 0$
33. $\sen \delta = \sqrt{3} \cos \delta - 1$
34. $3 \sen \rho \cos \rho - \sen \rho = 0$
35. $\sen^2 \gamma - \cos^2 \gamma = \frac{1}{2}$
36. $\sen^2 \chi - \cos \chi = \frac{1}{4}$
37. $\csc \omega = 1 + \cot^2 \omega$
38. $2 \cos \mu = \tan \mu + \sec \mu$
39. $2 \cos^2 \chi \sen^2 \chi - \cos \chi \sen \chi = 0$
40. $\cos^2 \chi - 3 \sen \chi + 3 \sen^2 \chi = 0$
41. $1 - \sen \theta = \sqrt{3} \cos \theta$
42. $\cos \alpha + \sen \alpha = 1$
43. $\cos \theta - \sen \theta = 1$
44. $2 \tan \beta - \sec^2 \beta = 0$
45. $\tan \chi + \sec \chi = 1$
46. $\sec \chi + \tan \chi = 0$
47. $2 \sen^3 \chi + \sen^2 \chi - 2 \sen \chi - 1 = 0$
48. $2 \tan \kappa \csc \kappa + 2 \csc \kappa + \tan \kappa + 1 = 0$
49. $2 \sen \chi \csc \chi - \csc \chi = 4 \sen \chi - 2$
50. $\sen \alpha - \cos \alpha = 0$
51. $12 \sen^2 \mu - 5 \sen \mu - 2 = 0$
52. $\csc \alpha + \cot \alpha = \sqrt{3}$
53. $\cos \kappa - \sqrt{3} \sen \kappa = 1$
54. $2 \cos \chi = 1 - \sen \chi$
55. $2 \cos x + 3 \sen x = 2$ |
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| 56. $3 \sen x + 5 \cos x + 5 = 0$
57. $1 + \sen x = 2 \cos x$
58. $3 \sen x + 4 \cos x = 2$
59. $\sen 3x = \frac{-\sqrt{2}}{2}$
60. $\cos \frac{x}{2} = \frac{1}{2}$
61. $\sen 2x = \frac{-\sqrt{3}}{2}$ | 62. $\tan 3x = 1$
63. $\cos \frac{x}{2} = \frac{\sqrt{3}}{2}$
64. $\sen 2x = \cos 2x$
65. $\sen 2x = \cos 4x$
66. $\sen 3x = \cos 2x$
67. $\tan 4x = \cot 6x$ |
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