

Identidades Trigonométricas Fundamentales

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|----------------------------------------------------|----------------------------------------------------|
| 1. $\csc(x) = \frac{1}{\sin(x)}$ | 2. $\sec(x) = \frac{1}{\cos(x)}$ |
| 3. $\tan(x) = \frac{\sin(x)}{\cos(x)}$ | 4. $\cot(x) = \frac{\cos(x)}{\tan(x)}$ |
| 5. $1 + \tan^2(x) = \sec^2(x)$ | 6. $1 + \cot^2(x) = \csc^2(x)$ |
| 7. $\sin(-x) = -\sin(x)$ | 8. $\cos(-x) = \cos(x)$ |
| 9. $\tan(-x) = -\tan(x)$ | 10. $\sin\left(\frac{\pi}{2} - x\right) = \cos(x)$ |
| 11. $\cos\left(\frac{\pi}{2} - x\right) = \sin(x)$ | 12. $\tan\left(\frac{\pi}{2} - x\right) = \cot(x)$ |

Fórmulas de Suma y Resta de Ángulos

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|------------------------------------------------------------------|------------------------------------------------------------------|
| 1. $\sin(x + y) = \sin(x) \cos(y) + \cos(x) \sin(y)$ | 2. $\sin(x - y) = \sin(x) \cos(y) - \cos(x) \sin(y)$ |
| 3. $\cos(x + y) = \cos(x) \cos(y) - \sin(x) \sin(y)$ | 4. $\cos(x - y) = \cos(x) \cos(y) + \sin(x) \sin(y)$ |
| 5. $\tan(x + y) = \frac{\tan(x) + \tan(y)}{1 - \tan(x) \tan(y)}$ | 6. $\tan(x - y) = \frac{\tan(x) - \tan(y)}{1 + \tan(x) \tan(y)}$ |

Identidades de Productos

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|---------------------------------------------------------------|---------------------------------------------------------------|
| 1. $\sin^2(x) = \frac{1}{2}(1 - \cos(2x))$ | 2. $\cos^2(x) = \frac{1}{2}(1 + \cos(2x))$ |
| 3. $\sin(x) \cos(x) = \frac{1}{2} \sin(2x)$ | 4. $\sin(x) \sin(y) = \frac{1}{2}(\cos(x - y) - \cos(x + y))$ |
| 5. $\sin(x) \cos(y) = \frac{1}{2}(\sin(x - y) + \sin(x + y))$ | 6. $\cos(x) \cos(y) = \frac{1}{2}(\cos(x - y) + \cos(x + y))$ |

Fórmulas del Doble de un Ángulo

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|-----------------------------------|-------------------------------------------------|
| 1. $\sin(2x) = 2 \sin(x) \cos(x)$ | 2. $\cos(2x) = \cos^2(x) - \sin^2(x)$ |
| 3. $\cos(2x) = 2 \cos^2(x) - 1$ | 4. $\tan(2x) = \frac{2 \tan(x)}{1 - \tan^2(x)}$ |