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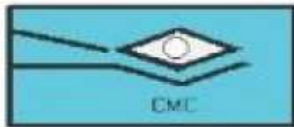
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## IDENTIDADES FUNDAMENTALES

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13.  $\frac{1 + \operatorname{sen} A}{\cos A} + \frac{\cos A}{\operatorname{sen} A} = \frac{1 + \operatorname{sen} A}{\operatorname{sen} A \cos A}$
14.  $\frac{1 + \operatorname{csc} A}{\cot A} - \frac{\cot A}{\operatorname{csc} A} = \frac{1 + \operatorname{csc} A}{\cot A \operatorname{csc} A}$
15.  $\frac{1 - \tan A}{\sec A} + \frac{\sec A}{\tan A} = \frac{1 + \tan A}{\sec A \tan A}$
16.  $\frac{\tan A}{\sec A} - \frac{\sec A - \cos A}{\tan A} = 0$
17.  $\frac{1 - \cos A}{\operatorname{sen} A} + \frac{\operatorname{sen} A}{1 - \cos A} = 2 \operatorname{csc} A$
18.  $\frac{\operatorname{sen} A}{1 - \cos A} - \frac{1 + \cos A}{\operatorname{sen} A} = 0$
19.  $\frac{\operatorname{sen} A}{1 + \sec A} - \frac{\operatorname{sen} A}{1 - \sec A} = 2 \cot A$
20.  $\frac{\tan A}{\operatorname{csc} A - \cot A} - \frac{\operatorname{sen} A}{\operatorname{csc} A + \cot A} = \sec A + \cos A$
21.  $\operatorname{csc}^4 A - \cot^4 A = \operatorname{csc}^2 A + \cot^2 A$
22.  $\cos^4 A - \cos^2 A \operatorname{sen}^2 A - 2 \operatorname{sen}^4 A = \cos^4 A - 2 \operatorname{sen}^2 A$
23.  $1 - 2 \cos^2 A + \cos^4 A = \operatorname{sen}^4 A$
24.  $\sec^4 A - 2 \sec^2 A \tan^2 A + \tan^4 A = 1$
25.  $\frac{\tan A + \sec^2 A - \sec A}{\sec A} = \tan^2 A + \operatorname{sen} A$
26.  $\frac{\cos A + \operatorname{sen}^2 A - \operatorname{sen} A}{\operatorname{sen} A} = \cot A - \cos^2 A$
27.  $\frac{1 - \operatorname{csc} A \sec^2 A + \sec A \operatorname{csc} A}{\operatorname{csc} A} = \operatorname{sen} A - \tan^2 A \sec A$
28.  $\frac{1 + \tan A \operatorname{sen}^2 A - \tan A}{\operatorname{sen} A} = \operatorname{csc} A - \cos A$
29.  $\frac{\cos^2 A - \cos A + \operatorname{sen} A}{\cos A} = \tan A - \operatorname{sen}^2 A$
30.  $\frac{\cos A + \operatorname{sen} A \cot A}{\cot A} = 2 \operatorname{sen} A$
31.  $\frac{\cos A \tan A + \operatorname{sen} A}{\tan A} = 2 \cos A$
32.  $\frac{\tan A - \tan^2 A + \sec^2 A}{\sec A} = \operatorname{sen} A + \cos A$



## Identidades fundamentales

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3.  $\sec^2 A(1 - \sin^2 A) \equiv 1.$
4.  $\frac{2 \cos u(1 - \cos^2 u)}{2 \sin u \cos u} \equiv \sin u.$
5.  $\frac{\csc u + \cot u}{\sin u + \tan u} \equiv \csc u \cot u.$
6.  $\frac{\cos \theta}{1 + \sin \theta} \equiv \sec \theta - \tan \theta.$
7.  $\sin^2 x(1 - \csc^2 x) \equiv \cos^2 x.$
8.  $\frac{\tan u + \sec u}{\cot v - \csc v} \equiv \frac{\cot v + \csc v}{\tan u - \sec u}$
9.  $\cot B + \tan B \equiv \sec B \csc B.$
10.  $\frac{\sin \theta}{1 - \cos \theta} \equiv \frac{1 + \cos \theta}{\sin \theta}.$
11.  $\frac{1 - \sin A}{\cos A} \equiv \frac{\cos A}{1 + \sin A}.$
12.  $\frac{\cos \theta}{1 - \sin \theta} - \tan \theta \equiv \sec \theta.$
13.  $\sec A - \frac{\cos A}{1 + \sin A} \equiv \tan A.$
14.  $\frac{1}{1 - \sin B} + \frac{1}{1 + \sin B} \equiv 2 \sec^2 B.$
15.  $\frac{\cot \theta + \csc \theta \cos \theta}{\cot \theta} \equiv 2.$
16.  $2 \cos^2 A(\cot^2 A + 1) \equiv \csc^2 A + \cot^2 A - 1.$
17.  $\csc^2 A + \sec^2 A \equiv \csc^2 A \sec^2 A.$
18.  $\frac{\cot B}{\sec B - \tan B} - \frac{\cos B}{\sec B + \tan B} \equiv \sin B + \csc B.$
19.  $\frac{2 + \csc A}{\sec A} - 2 \cos A \equiv \cot A.$
20.  $\frac{\sec^2 \alpha \tan^2 \alpha}{\sec^4 \alpha + \tan^4 \alpha} \equiv \frac{\sin^2 \alpha}{\cos^4 \alpha + 2 \sin^2 \alpha}.$
21.  $\frac{\tan u \sin u}{\tan u + \sin u} \equiv \frac{\tan u - \sin u}{\tan u \sin u}.$
22.  $\frac{\sec^4 A + \tan^4 A}{\sec^2 A \tan^2 A} \equiv \frac{\cos^4 A}{\sin^2 A} + 2.$
23.  $\frac{\cot u + \csc u}{\sin u - \cot u - \csc u} + \sec u \equiv 0.$
24.  $\sin A + \sin A \tan A + \cos A \cot A + \cos A \equiv \csc A + \sec A.$
25.  $\tan^2 u - \sin^2 u \equiv \tan^2 u \sin^2 u.$
26.  $\cot^2 \theta \sec^2 \theta \equiv 1 + \cot^2 \theta.$
27.  $\frac{\sec \theta + \csc \theta \cot \theta}{\sec^2 \theta} \equiv \cot \theta \csc \theta.$
28.  $\frac{\cot \theta + \tan \theta}{1} \equiv \frac{1}{\sin \theta \cos \theta}.$
29.  $(1 - \cot \theta)^2 (1 + \cot \theta)^2 + 4 \cot^2 \theta \equiv \csc^4 \theta.$
30.  $\frac{\cot u - \cot v}{1 + \cot u \cot v} \equiv \frac{\tan v - \tan u}{\tan v \tan u + 1}.$