Relaciones trigonométricas

$$sen\ \alpha = \frac{y}{r} \qquad \cos\ \alpha = \frac{x}{r} \qquad tg\ \alpha = \frac{y}{x}$$

$$tg\ \alpha = \frac{sen\ \alpha}{\cos\ \alpha}$$

$$ctg\ \alpha = \frac{x}{y} \qquad \cos\ ec\ \alpha = \frac{r}{y} \qquad \sec\ \alpha = \frac{r}{x}$$

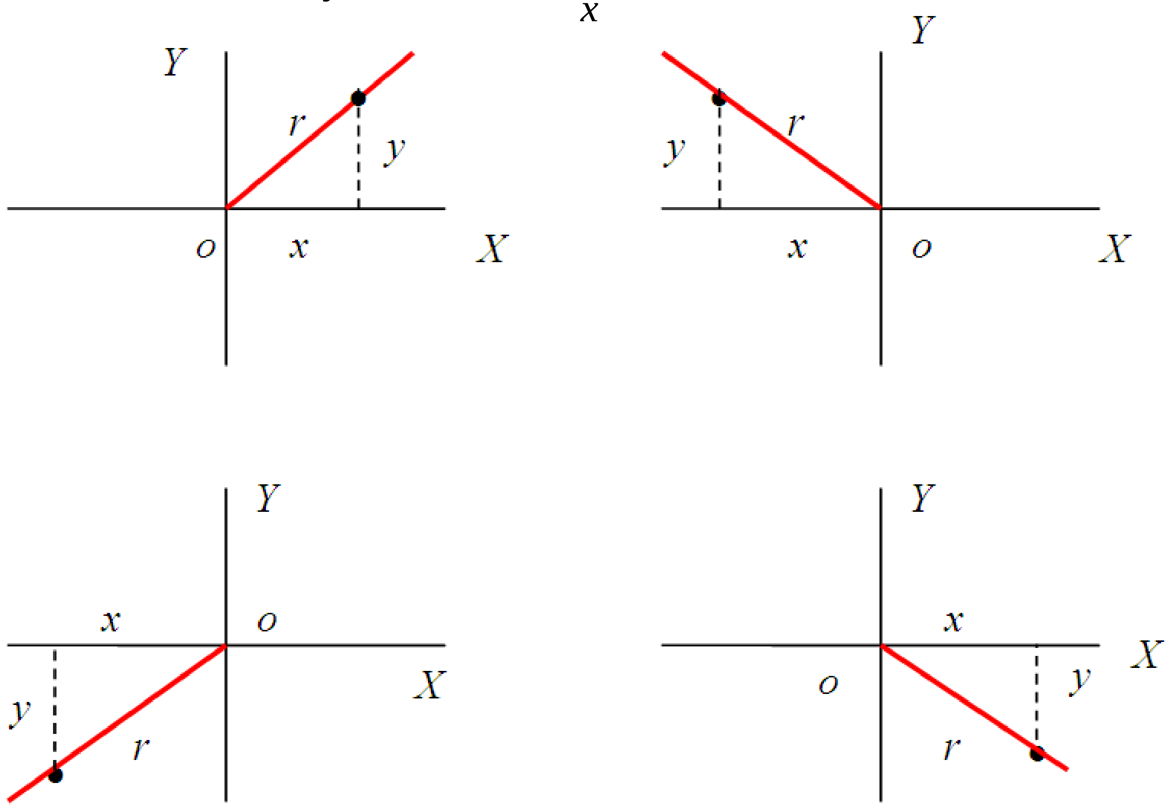


Fig. Graficas de las Funciones Trigonometricas

Identidades trigonométricas

$$sen\,(\alpha \pm \beta) = sen\,\alpha \cos\beta \pm \cos\alpha\, sen\,\beta$$

$$\cos(\alpha \pm \beta) = \cos\alpha \cos\beta \mp sen\,\alpha\, sen\,\beta$$

$$sen\,\alpha \pm sen\,\beta = 2\,sen\,\frac{1}{2}(\alpha \pm \beta)\cos\frac{1}{2}(\alpha \mp \beta)$$

$$\cos\alpha + \cos\beta = 2\cos\frac{1}{2}(\alpha + \beta)\cos\frac{1}{2}(\alpha - \beta)$$

$$\cos\alpha - \cos\beta = -2\,sen\,\frac{1}{2}(\alpha + \beta)\,sen\,\frac{1}{2}(\alpha - \beta)$$

$$sen\,\alpha\, sen\,\beta = \frac{1}{2}[\cos(\alpha - \beta) - \cos(\alpha + \beta)]$$

$$\cos\alpha \cos\beta = \frac{1}{2}[\cos(\alpha - \beta) + \cos(\alpha + \beta)]$$

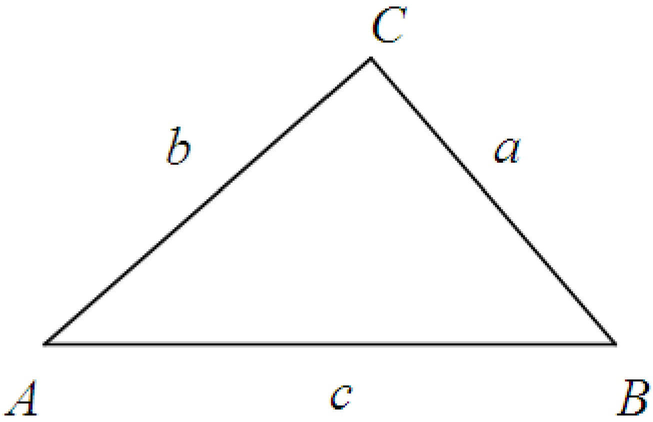
$$sen\,\alpha \cos\beta = \frac{1}{2}[sen\,(\alpha - \beta) + sen\,(\alpha + \beta)]$$

$$sen\ 2\alpha = 2\,sen\ \alpha\ \cos\ \alpha$$

$$\cos\ 2\alpha = \cos^2\alpha - sen^2\alpha$$

$$sen^2\frac{1}{2}\alpha = \frac{1}{2}(1 - \cos\ \alpha)$$

$$\cos^2\frac{1}{2}\alpha = \frac{1}{2}(1 + \cos\ \alpha)$$



Ley de los senos

$$\frac{a}{senA} = \frac{b}{senB} = \frac{c}{senC}$$

Ley de los cosenos

$$a^2 = b^2 + c^2 - 2bc\ \cos\ A$$