

# FÓRMULAS MATEMÁTICAS

## Ecuaciones lineales

$$ax + b = 0$$

$$ax = -b \Rightarrow x = \frac{-b}{a}$$

## Ecuaciones cuadráticas

$$ax^2 + bx + c = 0$$

$$\Rightarrow x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

## Otras ecuaciones

ej.:  $x^3 - bx = 0 \Rightarrow x(x^2 - b) = 0$   
 $x_1 = 0; x_2 = b; x_3 = -b$

ej.:  $\sqrt{x} - 5 = 0 \Rightarrow \sqrt{x} = 5 \Rightarrow x = 5^2$

## Productos notables de binomios

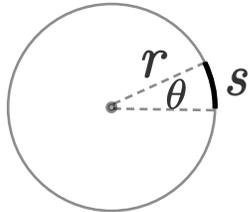
$$(m + n)(r - s) = mr - ms + nr - ns$$

$$(a + b)^2 = a^2 + 2ab + b^2$$

$$(a - b)^2 = a^2 - 2ab + b^2$$

$$(a + b)(a - b) = a^2 - b^2$$

## Geometría



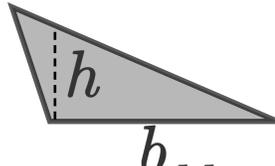
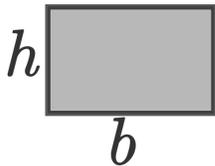
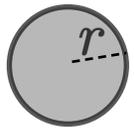
longitud de arco:

$$s = r\theta$$

circunferencia:

$$circ = 2\pi r$$

## Áreas

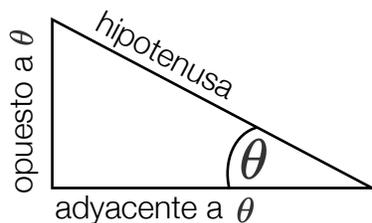


$$A = \pi r^2$$

$$A = bh$$

$$A = \frac{bh}{2}$$

## Trigonometría



$$\sin \theta = \frac{op}{hip}$$

$$\cos \theta = \frac{ady}{hip}$$

$$\tan \theta = \frac{op}{ady} = \frac{\sin \theta}{\cos \theta} \quad \cot \theta = \frac{1}{\tan \theta}$$

$$\sec \theta = \frac{1}{\cos \theta} \quad \csc \theta = \frac{1}{\sin \theta}$$

$$\sin^2 \theta + \cos^2 \theta = 1$$

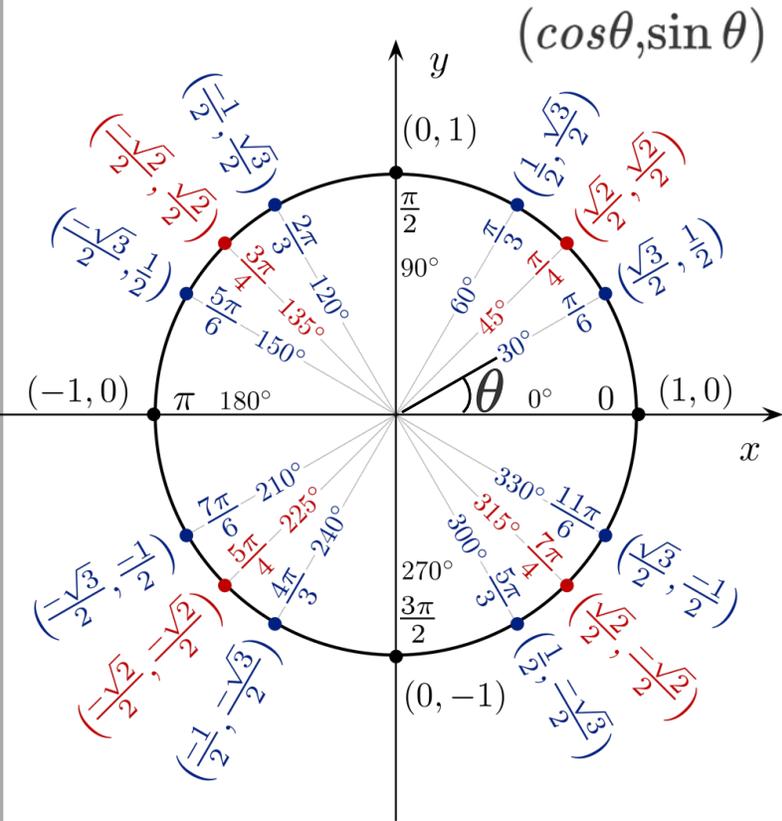
$$\sin(90^\circ - \theta) = \cos \theta$$

$$\cos(90^\circ - \theta) = \sin \theta$$

$$a = \sin \theta \Rightarrow \theta = \arcsin a$$

$$a = \cos \theta \Rightarrow \theta = \arccos a$$

$$a = \tan \theta \Rightarrow \theta = \arctan a$$



## Logaritmos

$$a^b = c \Rightarrow \log_a c = b$$

$$\log_a b = \frac{\ln b}{\ln a} = \frac{\log_{10} b}{\log_{10} a}$$

$$n \log_a b = \log_a b^n$$

$$\log_a (xy) = \log_a x + \log_a y$$

$$\log_a \left( \frac{x}{y} \right) = \log_a x - \log_a y$$