

$$\frac{-b}{2a} = X_v$$

$$\text{Ejm: } f(x) = x^2 + x + 2$$

$$X_v =$$

$$f(x) = -2x^2 + 3x$$

$$X_v =$$

## SOLUCIÓN - LABERINTO CUADRÁTICO:

$$-7x^2 + 14x + 21 = 0$$

$$x^2 - 2x - 3 = 0$$

$$x^2 + x - 3x - 3 = 0$$

$$x \times (x+1) - 3x - 3 = 0$$

$$x \times (x+1) - 3(x+1) = 0$$

$$(x+1) \times (x-3) = 0$$

$$x+1 = 0$$

$$x-3 = 0$$

$$x = -1$$

$$x = -1$$

$$x-3 = 0$$

$$x = 3$$

Emmis

$$2x^2 - 14x + 24 = 0$$

$$x^2 - 7x + 12 = 0$$

$$x^2 - 3x - 4x + 12 = 0$$

$$x \times (x-3) - 4x + 12 = 0$$

$$x \times (x-3) - 4(x-3) = 0$$

$$(x-3) \times (x-4) = 0$$

$$x-3 = 0$$

$$x = 3$$

$$x-4 = 0$$

$$x = 4$$

$$-7x^2 + 63 = 0$$

$$x^2 - 9 = 0$$

$$x^2 = 9$$

$$x = \pm \sqrt{9}$$

$$x = \pm 3$$

$$x = -3$$

$$x = 3$$

$$x^2 - 7x - 4 = 0$$

$$x = \frac{-(-7) \pm \sqrt{(-7)^2 - 4 \times 1 \times (-4)}}{2 \times 1}$$

$$x = \frac{-(-7) \pm \sqrt{(-7)^2 - 4 \times (-4)}}{2 \times 1}$$

Emmis



$$x = \frac{-(-7) \pm (-7)^2 - 4 \times (-4)}{2}$$

$$x = \frac{7 \pm \sqrt{(-7)^2 - 4 \times (-4)}}{2}$$

$$x = \frac{7 \pm \sqrt{49 - 4 \times (-4)}}{2}$$

$$-4 \times (-4)$$

$$(-) \times (-) = (+)$$

$$4 \times 4 = 16$$

$$x = \frac{7 \pm \sqrt{49 + 16}}{2}$$

$$x = \frac{7 + \sqrt{65}}{2}$$

$$x = \frac{7 \pm \sqrt{65}}{2}$$

$$x = \frac{7 - \sqrt{65}}{2}$$

$$x^2 - 2x - 2 = 0$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4 \times 1 \times (-2)}}{2 \times 1}$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4 \times (-2)}}{2 \times 1}$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4 \times (-2)}}{2}$$

$$x = \frac{2 \pm \sqrt{(-2)^2 - 4 \times (-2)}}{2}$$

$$x = \frac{2 \pm \sqrt{4 - 4 \times (-2)}}{2}$$

$$x = \frac{2 \pm \sqrt{4 + 8}}{2}$$

$$x = \frac{2 \pm \sqrt{12}}{2}$$

$$\sqrt{2^2 \times 3} = 2\sqrt{3}$$

$$x = \frac{2 \pm 2\sqrt{3}}{2}$$

$$x = \frac{-2 + 2\sqrt{3}}{2}$$

$$x = \frac{-2 - 2\sqrt{3}}{2}$$



$$x = \frac{2 + 2\sqrt{3}}{2} = \frac{\cancel{2}(1 + \sqrt{3})}{\cancel{2}}$$

$$x = 1 + \sqrt{3}$$

$$x = \frac{2 - 2\sqrt{3}}{2} = \frac{\cancel{2}(1 - \sqrt{3})}{\cancel{2}}$$

$$x = 1 - \sqrt{3}$$

$$4x^2 - 24 = 0$$

$$x^2 - 6 = 0$$

$$x^2 = 6$$

$$x = \pm \sqrt{6}$$

$$\begin{array}{l} \rightarrow x = -\sqrt{6} \\ \rightarrow x = \sqrt{6} \end{array}$$

$$2x^2 - 6x - 2 = 4x - 3 =$$

$$2x^2 - 6x - 2 - 4x + 3 = 0$$

$$2x^2 - 10x - 2 + 3 = 0$$

$$2x^2 - 10x + 1 = 0$$

$$x = \frac{-(-10) \pm \sqrt{(-10)^2 - 4 \times 2 \times 1}}{2 \times 2}$$

Emmis

$$x = \frac{-(-10) \pm \sqrt{(-10)^2 - 4 \times 2}}{2 \times 2}$$

$$x = \frac{10 \pm \sqrt{(-10)^2 - 4 \times 2}}{2 \times 2}$$

$$x = \frac{10 \pm \sqrt{100 - 4 \times 2}}{2 \times 2} \rightarrow (-) \times (+) = (-) \rightarrow -(4 \times 2) = -8$$

$$x = \frac{10 \pm \sqrt{100 - 8}}{2 \times 2}$$

$$x = \frac{10 \pm \sqrt{100 - 8}}{4}$$

$$x = \frac{10 \pm \sqrt{92}}{4} = \sqrt{2^2 \times 23} = 2\sqrt{23}$$

$$x = \frac{10 \pm 2\sqrt{23}}{4} \rightarrow x = \frac{10 + 2\sqrt{23}}{4}$$

$$x = \frac{10 - 2\sqrt{23}}{4}$$

$$x = \frac{10 + 2\sqrt{23}}{4} =$$

Emmis



$$\frac{\cancel{2}(5 + \sqrt{23})}{\cancel{4}} = \frac{5 + \sqrt{23}}{2}$$

$$x = \frac{10 - 2\sqrt{23}}{4} = \frac{\cancel{2}(5 - \sqrt{23})}{\cancel{4}} = \frac{5 - \sqrt{23}}{2}$$

$$-14x^2 + 4x + 14 - 6x^2 = 0$$

$$-14x^2 + 4x + 14 + 6x^2 = 0$$

$$-8x^2 + 4x + 14 = 0$$

$$4x^2 - 2x - 7 = 0$$

$$x = \frac{-(-2) \pm \sqrt{(-2)^2 - 4 \times 4 \times (-7)}}{2 \times 4}$$

$$x = \frac{2 \pm \sqrt{(-2)^2 - 4 \times 4 \times (-7)}}{2 \times 4}$$

$$x = \frac{2 \pm \sqrt{4 - 4 \times 4 \times (-7)}}{2 \times 4}$$

$$x = \frac{2 \pm \sqrt{4 + 112}}{2 \times 4}$$

$$x = \frac{2 \pm \sqrt{4 + 112}}{8}$$

Emmis

$$x = \frac{2 \pm \sqrt{116}}{8} = \sqrt{2^2 \times 29} = 2\sqrt{29}$$

$$x = \frac{2 \pm 2\sqrt{29}}{8} \rightarrow x = \frac{2 + 2\sqrt{29}}{8}$$

$$x = \frac{2 - 2\sqrt{29}}{8}$$

$$x = \frac{2 + 2\sqrt{29}}{8} = \frac{1 + \sqrt{29}}{4}$$

$$x = \frac{2 - 2\sqrt{29}}{8} = \frac{1 - \sqrt{29}}{4}$$

Emmis