

Ecuaciones cuadráticas (factorización y fórmula)

No hay factorización

$$(x - 2)(x - 2) = 0$$

$$(-x + 5)(x - 2) = 0$$

$$(2x - 1)(x - 3) = 0$$

Factoriza los siguientes trinomios

1) $2x^2 - 7x + 3 = 0$

$$\begin{array}{c} 2x \\ x \end{array}$$

$$x = - \quad x =$$

2) $-x^2 + 7x - 10 = 0$

$$\begin{array}{c} -x \\ x \end{array}$$

$$x = \quad x =$$

3) $x^2 + x + 1 = 0$

$$\begin{array}{c} x \\ x \end{array}$$

$$x = \quad x =$$

4) $x^2 - 4x + 4 = 0$

$$\begin{array}{c} x \\ x \end{array}$$

$$x = \quad x =$$

En los siguientes ejercicios, primero organiza y simplifica los trinomios para factorizarlos

5) $2x - 3 = 1 - 3x + x^2$

$$\begin{array}{c} x^2 - x + = 0 \\ x \\ x \end{array}$$

$$x = \quad x =$$

6) $2x^2 + (7 - x)^2 = 9$

$$\begin{array}{c} x^2 - x + = 0 \\ x \\ x \end{array}$$

$$x = \quad x =$$

7) $7x^2 + 21x - 28 = 0$

$$\begin{array}{c} x^2 + x - = 0 \\ x \\ x \end{array}$$

$$x = \quad x =$$

8) $18 = 6x + x(x - 13)$

$$\begin{array}{c} x^2 - x - = 0 \\ x \\ x \end{array}$$

$$x = \quad x =$$

9) $x^2 + (x + 2)^2 = 172$

$$\begin{array}{c} x^2 + x - = 0 \\ x \\ x \end{array}$$

$$x = \quad x =$$

10) $x^2 - \frac{11}{6}x - \frac{5}{3} = 0$

$$\begin{array}{c} x^2 - x - = 0 \\ x \\ x \end{array}$$

$$x = - \quad x = -$$

$$(3x + 2)(2x - 5) = 0$$

$$(x + 4)(x - 1) = 0$$

$$(x - 4)(x - 1) = 0$$

$$(x - 9)(x + 2) = 0$$

$$(x - 10)(x - 4) = 0$$

$$(x - 14)(x + 12) = 0$$

Utilizando el trinomio más simplificado de cada uno de los ejercicios anteriores, resuelve usando la fórmula de la ecuación cuadrática:

11) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{-}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

12) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{-}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

13) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{-}}{2(-)} = \frac{\pm \sqrt{i}}{2(-)} \rightarrow \begin{array}{l} x = \frac{+\sqrt{i}}{-} = - = \\ x = \frac{-\sqrt{i}}{-} = - = \end{array}$

14) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{-}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

15) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{-}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

16) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{-}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

17) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{+}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

18) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{+}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

19) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{+}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$

20) $\begin{array}{l} a = \\ b = \\ c = \end{array} \rightarrow \frac{-(-) \pm \sqrt{(-)^2 - 4(-)(-)}}{2(-)} = \frac{\pm \sqrt{+}}{2(-)} = \pm \rightarrow \begin{array}{l} x = \frac{+}{-} = - = \\ x = \frac{-}{-} = - = \end{array}$