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28 11 11 - ①

32)

$$x \cdot 2x = 288$$

$$2x^2 = 288 // x^2 = \frac{288}{2} = 144 // x = \pm \sqrt{144} = \begin{cases} x_1 = \underline{\underline{12}} \\ x_2 = \underline{\underline{-12}} \end{cases}$$

33)

$$\left. \begin{array}{l} \text{Alberto} = 2x \\ \text{Ana} = x \end{array} \right\}$$

$$2x \cdot x = 512 // 2x^2 = 512 // x^2 = \frac{512}{2} = 256$$

$$x = \pm \sqrt{256} = \begin{cases} x_1 = +16 \\ x_2 = -16 \end{cases}$$

34) $x + x^2 = 42$

$x^2 + x - 42 = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-1 \pm \sqrt{1 - 4 \cdot 1 \cdot (-42)}}{2 \cdot 1}$$

$$= \frac{-1 \pm \sqrt{1 + 168}}{2} = \frac{-1 \pm \sqrt{169}}{2} = \frac{-1 \pm 13}{2} = \begin{cases} \frac{12}{2} = 6 \\ \frac{-14}{2} = -7 \end{cases}$$

Comprobación: $6 + 6^2 = 6 + 36 = 42$

$-7 + (-7)^2 = -7 + 49 = 42$

35) Luisa = $x + 5$

Hermano = x

$x \cdot (x + 5) = 176 // x^2 + 5x = 176 // x^2 + 5x - 176 = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-5 \pm \sqrt{25 - 4 \cdot 1 \cdot (-176)}}{2 \cdot 1}$$

$$= \frac{-5 \pm \sqrt{25 + 704}}{2} = \frac{-5 \pm \sqrt{729}}{2} = \frac{-5 \pm 27}{2} = \begin{cases} \frac{22}{2} = 11 \\ \frac{-32}{2} = -16 \end{cases}$$

Hermano = 11

Luisa = $x + 5 = 11 + 5 = \underline{\underline{16}}$

$$36) \quad x \cdot (x+1) = 380$$

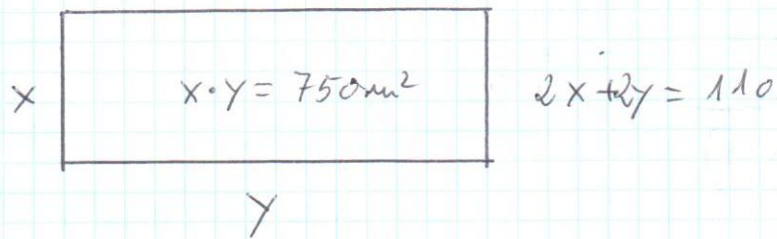
$$x^2 + x = 380 \quad // \quad x^2 + x - 380 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4 \cdot a \cdot c}}{2a} = \frac{-1 \pm \sqrt{1 - 4 \cdot 1 \cdot (-380)}}{2 \cdot 1} =$$

$$= \frac{-1 \pm \sqrt{1 + 1520}}{2} = \frac{-1 \pm \sqrt{1521}}{2} = \frac{-1 \pm 39}{2} =$$

$$= \begin{cases} \frac{38}{2} = 19 \\ \frac{-40}{2} = -20 \end{cases}$$

37)



$$\left. \begin{array}{l} x + y = 55 \\ x \cdot y = 750 \end{array} \right\} \begin{array}{l} y = 55 - x \\ x \cdot (55 - x) = 750 \end{array} \Rightarrow 55x - x^2 - 750 = 0$$

$$x \cdot (55 - x) = 750 \Rightarrow 55x - x^2 - 750 = 0$$

$$-x^2 + 55x - 750 = 0$$

$$-x^2 + 55x - 750 = 0$$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-55 \pm \sqrt{3 \cdot 0.25 - 4 \cdot (-1) \cdot (-750)}}{2 \cdot (-1)}$$

$$= \frac{-55 \pm \sqrt{3 \cdot 0.25 - 3000}}{-2} = \frac{-55 \pm 5}{-2} = \begin{cases} \frac{-50}{-2} = 25 \\ \frac{-60}{-2} = 30 \end{cases}$$

$$\begin{cases} x_1 = 25 \\ y_1 = 30 \end{cases}$$

70g) $(-x-7) \cdot (x-7)$ Dos formas de hacerlo

$$1.) (-x-7) \cdot (x-7) = -x^2 + \cancel{7x} - \cancel{7x} + 49 = -x^2 + 49 = \\ = (7^2 - x^2)$$

$$2.) (-x-7) \cdot (x-7) = -(x+7) \cdot (x-7) = -(x^2 - 7^2) = \\ = 7^2 - x^2$$

72d)

$$\frac{(x^2-9)(y^2-16)}{xy(2x-6)(y+4)^2} = \frac{(x+3)(\cancel{x-3})(y+4)(y-4)}{2xy(\cancel{x-3})(y+4)^2} = \\ = \frac{(x+3)(y-4)}{2xy(y+4)}$$

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63c) simplifica

$$6^3 \cdot 12^5 = (2 \cdot 3)^3 (3 \cdot 2^2)^5 = 2^3 \cdot 3^3 \cdot 3^5 \cdot 2^{10} = 2^{13} \cdot 3^8$$

Pag 84 (Para Juan Andre's, con cariño)

$$49) 5x = 7+3 \Rightarrow 5x = 10 \Rightarrow x \neq \frac{10}{-5} = -2 \\ \searrow \Rightarrow x = \frac{10}{5} = 2$$

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28 11 11 (5)

50a) $6(x+1) = 40 + 6(x+2) // 6x + 66 = 40 + 6x + 12$
 $6x - 6x = 40 + 12 - 66 // 0 = -14$ no tiene solución

52a) $\frac{x-2}{5} = 1 // x-2 = 5 \cdot 1 // x = 5+2 = 7 // \underline{\underline{x=7}}$

53a) $\frac{3x}{5} + 7 = \frac{2x}{6} + 9 // \frac{18x}{30} + \frac{210}{30} = \frac{10x}{30} + \frac{270}{30}$

$18x - 10x = 270 - 210 // 8x = 60 // x = \frac{60}{8} = \frac{\cancel{2} \cdot 2 \cdot 3 \cdot 5}{\cancel{2} \cdot 2 \cdot 2} = \underline{\underline{\frac{15}{2}}}$

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59a) $x^2 - 5x + 6 = 0$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a} = \frac{-(-5) \pm \sqrt{(-5)^2 - 4 \cdot 1 \cdot 6}}{2 \cdot 1} =$

$= \frac{5 \pm \sqrt{25 - 24}}{2} = \frac{5 \pm 1}{2} = \begin{cases} x_1 = \frac{6}{2} = \underline{\underline{3}} \\ x_2 = \frac{4}{2} = \underline{\underline{2}} \end{cases}$