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77 c

$$161 = 12^2 + 17$$

$$17 = 4^2 + 1$$

$$161 = 12^2 + 4^2 + 1$$

$$160 = 12^2 + 4^2$$

$$x^2 = 12^2 + 4^2$$

$$x^2 = 160$$

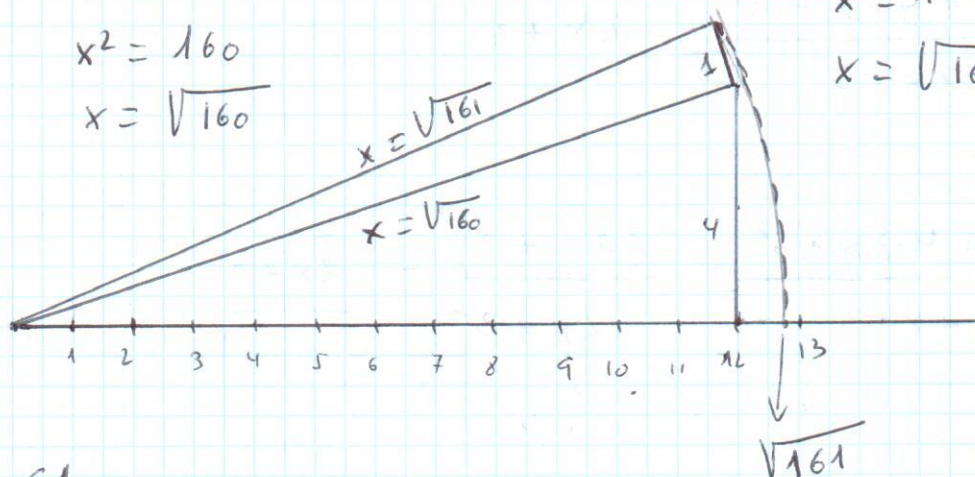
$$x = \sqrt{160}$$

$$x^2 = (\sqrt{160})^2 + 1^2$$

$$x^2 = 160 + 1$$

$$x^2 = 161$$

$$x = \sqrt{161}$$

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32a)

$$\frac{x^3}{x \cdot y} = \frac{\cancel{x} \cdot \cancel{x} \cdot x}{\cancel{x} \cdot y} = \frac{x^2}{y}$$

32b)

$$\frac{5x^3 \cdot y^2}{3xy} = \frac{5 \cancel{x^2} \cdot y^{\cancel{2}}}{3 \cancel{x} \cancel{y}} = \frac{5x^2 \cdot y}{3}$$

32c)

$$\frac{6x^2 \cdot y}{3x^2 \cdot y^2} = \frac{6 \cancel{x^2} \cdot \cancel{y}}{3 \cancel{x^2} \cdot y^{\cancel{2}1}} = \frac{2}{y}$$

32d)

$$\frac{4x^2 y}{4xy} = \frac{4 \cancel{x^2} \cdot \cancel{y}}{4 \cancel{x} \cancel{y}} = x$$

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$$33a) \frac{x^2 - 4x + 4}{x - 2} = \frac{(x-2)^2}{x-2} = \underline{\underline{x-2}}$$

$$33b) \frac{x^2 - 9}{2x - 6} = \frac{(x+3) \cdot (x-3)}{2(x-3)} = \underline{\underline{\frac{x+3}{2}}}$$

34) Calcula "a" para que

$$\frac{4x^2 + 4ax + a^2}{2x + 3} = 2x + 3$$

$$\underline{\underline{a = 3}}$$

$$\frac{4x^2 + 4 \cdot 3x \cdot 3^2}{2x + 3} = \frac{(2x + 3)^2}{2x + 3} = \underline{\underline{2x + 3}}$$

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$$37c) 9c^9 + c^9 + c^9 = \underline{\underline{11c^9}}$$

$$38a) 3x^2 - 6x^2 = \underline{\underline{-3x^2}}$$

$$39a) 2x^2 + 3x^2 - 7x^2 + 8x^2 - x^2 = \underline{\underline{5x^2}} \text{ grado 2}$$

$$39j) (9abc) : (3bc) = \frac{9abc}{3bc} = \underline{\underline{3a}} \text{ Grado 1}$$

$$41a) xy \cdot 3xy \cdot (-6xy) = 3x^2y^2(-6xy) = \underline{\underline{-18x^3y^3}}$$

$$42d) 8xy^2 : 2xy^2 = \frac{8xy^2}{2xy^2} = \underline{\underline{4}}$$

$$43b) 2x \cdot (-y) + 7xy - yx + (-4x) \cdot (-5y) =$$

$$= -2xy + 7xy - xy + 20xy = \underline{\underline{24xy}}$$

$$44a) x \cdot x \cdot x = x^3$$

$$44b) x^2 - x \neq x$$

$$47g) U(x) = \frac{1}{2}x^2 - x - \frac{1}{6} - \frac{2}{7}x^2 = \frac{1}{2}x^2 - \frac{2}{7}x^2 - x - \frac{1}{6}$$

$$= x^2 \left(\frac{1}{2} - \frac{2}{7} \right) - x - \frac{1}{6} = x^2 \left(\frac{7}{14} - \frac{4}{14} \right) - x - \frac{1}{6} =$$

$$= \frac{3}{14}x^2 - x - \frac{1}{6}$$

48 c)

$$C(x) = 4x^5 - x^2 + 3$$

$$C(-1) = -4 - 1 + 3 = \underline{\underline{-2}}$$

49 a)

$$P(x, y) = 2x^2y + xy^2 - 3xy + 5x - 6y + 9$$

$$P(0, 0) = 0 + 0 - 0 + 0 - 0 + 9 = \underline{\underline{9}}$$

49 e)

$$P(1, 2) = 2 \cdot 1^2 \cdot 2 + 1 \cdot 2^2 - 3 \cdot 1 \cdot 2 + 5 \cdot 1 - 6 \cdot 2 + 9 =$$

$$= 4 + 4 - 6 + 5 - 12 + 9 = \underline{\underline{4}}$$

$$51b) P(x) = kx^4 + kx^3 + 4$$

$$P(1) = k + k + 4 = 6 // 2k = 6 - 4 // k = \frac{2}{2} = \underline{\underline{1}}$$

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52 f)

$$\begin{array}{r} R(x) = 3x^2 - x + 1 \\ S(x) = \quad \quad 2x + 3 \\ \hline 3x^2 + x + 4 \end{array}$$

55 a)

$$R(x) = P(x) + Q(x)$$

$$Q(x) = R(x) - P(x)$$

$$R(x) = \quad \quad x - 1$$

$$- P(x) = -x^2 - 2x + 1$$

$$Q(x) = -x^2 - x \quad /$$

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67d)

$$\frac{3}{5} : \frac{4}{7} : \frac{3}{4} - 1 = \frac{21}{20} : \frac{3}{4} - 1 = \frac{84}{60} - 1 =$$

$$\frac{2 \cdot 2 \cdot 3 \cdot 7}{4 \cdot 2 \cdot 3 \cdot 5} - 1 = \frac{7}{5} - 1 = \frac{7}{5} - \frac{5}{5} = \underline{\underline{\frac{2}{5}}}$$

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56 d)

$$(-2)^6 \cdot (-2)^3 \neq [(-2) \cdot (-2)]^{6+3}$$

$$\hookrightarrow \underline{\underline{(-2)^9}}$$

66d)

$$0,000001 : 1.000 = 10^{-6} : 10^3 = 10^{-9}$$