

4t ESO - "FITXA 4" (POLINOMIS I FRACCIONS ALGÈBRIGUES)

① a) $\frac{\sqrt{3x}}{5x^2+6} = \frac{\sqrt{3}\sqrt{x}}{5x^2+6} = \frac{\sqrt{3}x^{1/2}}{5x^2+6}$

NO, $\frac{1}{2} \notin \mathbb{N}$

b) $\frac{\sqrt{3}x^2}{4x-1}$ sí. $\left\{ \begin{array}{l} \text{coeficients } \in \mathbb{R} \\ \text{exponents índet. } \in \mathbb{N} \\ \text{denominador } \neq 0 \end{array} \right.$

c) $\frac{4x^{1/2}-6}{2x}$ NO, $\frac{1}{2} \in \mathbb{N}$

d) $\frac{8}{x-1}$ sí.

e) $\frac{0}{6x}$ sí.

f) $\frac{7x^2}{0}$ No, el denominador no pot ser \emptyset .

② a) $\frac{x}{x-1} = \frac{x \cdot (x+1)}{x^2-1}$

$$\frac{x \cdot (x^2-1)}{(x-1) \cdot x \cdot (x+1)} = 1$$

$$\frac{x \cdot (x+1)(x-1)}{x \cdot (x+1)(x-1)} = 1$$

✓ sí, són equivalents

$$b) \frac{x^2}{2x-1} = \frac{2x^3}{4x^2-2x}$$

$$\frac{x^2 \cdot (4x^2 - 2x)}{(2x-1) \cdot 2x^3} = 1$$

$$\frac{2x^3 \cdot (2x-1)}{2x^3 \cdot (2x-1)} = 1 \quad \checkmark \text{ Si, son equivalentes}$$

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$$a) \frac{3}{3x-3} = \frac{\cancel{3}}{\cancel{3}(x-1)} = \boxed{\frac{1}{x-1}}$$

$$b) \frac{6a}{2ax-2a} = \frac{\cancel{2} \cdot \cancel{3} \cdot a}{\cancel{2}a(x-1)} = \boxed{\frac{3}{x-1}}$$

$$c) \frac{6+2b}{3+b} = \frac{2 \cdot (\cancel{3+b})}{(\cancel{3+b})} = \boxed{2}$$

$$d) \frac{b+1}{b^2-1} = \frac{\cancel{(b+1)}}{\cancel{(b+1)}(b-1)} = \boxed{\frac{1}{b-1}}$$

$$e) \frac{x-2}{x^2-4} = \frac{\cancel{(x-2)}}{(x+2)\cancel{(x-2)}} = \boxed{\frac{1}{x+2}}$$

$$f) \frac{x^2-1}{(x-1)^2} = \frac{(x+1)\cancel{(x-1)}}{(x-1)\cancel{(x-1)}} = \boxed{\frac{x+1}{x-1}}$$

$$g) \frac{x+1}{x^2+2x+1} = \frac{\cancel{(x+1)}}{(x+1)^2} = \boxed{\frac{1}{x+1}}$$