Gabarito.

Teste - Álgebra - 9º ANO

2º Trimestre

1. a) $\left(\frac{a}{b^2-a^2} : \frac{1}{3b-3a}\right) \cdot (3a+3b)$ — Livro Pág. 132 Ex: 8

$\left(\frac{a}{(b-a)(b+a)} : \frac{1}{3(b-a)}\right) \cdot 3(a+b)$

$\left(\frac{a}{(b-a)(b+a)} \cdot 3(b-a) \cdot 3 \cdot (a+b) = 9a\right.$

b) $\left(\frac{10}{a^2/1} + \frac{6}{a/a}\right) - \left(\frac{6}{a/1} + \frac{4}{1/a}\right)$ — Livro Pág. 122 Ex: 10/h

$\left(\frac{10+6a}{a^2}\right) - \left(\frac{6+4a}{a}\right) \Rightarrow \frac{10+6a}{a^2/1} - \frac{6-4a}{a/a}$

$\frac{10+6a-6a-4a^2}{a^2} = \frac{10-4a^2}{a^2}$

2. A) $9x^2+18x+9$, $15x+15$, $6x^2+6$ — Livro Pág 119 Ex: 8/E

$9(x^2+2x+1)$, $15(x+1)$ $6(x^2+1)$

$9(x+1)^2$, $15(x+1)$ $6(x^2+1)$

MDC = 3 MMC = $90(x+1)^2 \cdot (x^2+1)$

b) x^2-1, $2x+2$, x^2-3x-4 — Livro Pág. 132 Ex. 2

$(x+1)(x-1)$, $2(x+1)$, $(x-4)(x+1)$

MDC = $(x+1)$ MMC = $2(x-4)(x+1)(x-1)$

3. $\frac{2x-5}{x^2-7x+10}$ — Livro Pág. 133 Ex: 10

$(x-5)(x-2)$ $U = \mathbb{R} - \{5, 2\}$

4. $\left(\frac{3x}{4}\right)^2 \cdot \left(\frac{2y}{3}\right)^3 : \frac{x^2y^3}{18}$

$\frac{9x^2}{16} \cdot \frac{8y^3}{27} \cdot \frac{18}{x^2y^3} = 3$ pontos.

5. a) $\frac{720}{x-2} = 40$

$40x - 80 = 720 \qquad 40x = 800 \qquad x = 20$ Famílias

b) $x - 2 = 20 - 2 = 18$ Famílias

c) $\frac{720}{20} = 36$ Kg

6. $\left(\frac{x+3}{x^2-4} + \frac{3}{3x-6}\right) \cdot \left[\frac{x+2}{2x+5} - \frac{2x^2+6x+4}{3x(2x+5)}\right]$

a) Laura $\left(\frac{x+3}{x^2-4} + \frac{3}{3x-6}\right)$

$\frac{x+3}{(x-2)(x+2)} + \frac{3}{3(x-2)}$ (3 / x+2)

$\frac{3x+9+3x+6}{3(x-2)(x+2)} = \frac{6x+15}{3(x-2)(x+2)} = \frac{6x+15}{3(x^2-4)} = \frac{6x+15}{3x^2-12}$

b) Lúcia $\left[\frac{x+2}{2x+5} - \frac{2x^2+6x+4}{3x(2x+5)}\right]$ (3x)

$\left[\frac{3x^2+6x-2x^2-6x-4}{3x(2x+5)}\right] \Longrightarrow \frac{x^2-4}{6x^2+15x}$

c) $\frac{6x+15}{3x^2-12} \cdot \frac{x^2-4}{6x^2+15x}$

$\frac{3(2x+5)}{3 \cdot (x^2-4)} \cdot \frac{x^2-4}{3x(2x+5)} = \frac{1}{3x}$

7. $\frac{x-1}{A+1} - \frac{x+1}{A-1} = \frac{2A+4}{A^2-1}$ (A-1 / A+1 / 1)

$(x-1)(A-1) - [(x+1)(A+1)] = 2A+4$

$Ax - x - A + 1 - [Ax + x + A + 1] = 2A + 4$

$Ax - x - A + 1 - Ax - x - A - 1 = 2A + 4$

$-2x = 2A + 4 + 2A$

$-2x = 4A + 4 \quad (-1)$

$2x = -4A - 4$

$x = \frac{-4A-4}{2} = -2A - 2$