Bruchterme dividieren für Könner

Lösungsblatt

$$\frac{3a+6}{9a-6} : \frac{a+2}{12a-8} = \frac{3a+6}{9a-6} \cdot \frac{12a-8}{a+2} =$$

$$= \frac{3 \cdot \cancel{(a+2)}}{3 \cdot \cancel{(3a-2)}} \cdot \frac{4 \cdot \cancel{(3a-2)}}{\cancel{a+2}} = \frac{\cancel{3} \cdot 4}{\cancel{3}} = \frac{4}{1} = \mathbf{4}$$

$$\frac{15+9x}{4x-6} : \frac{45+27x}{16x-24} = \frac{15+9x}{4x-6} \cdot \frac{16x-24}{45+27x} =$$

$$= \frac{3 \cdot \cancel{(5+3x)}}{2 \cdot \cancel{(2x-3)}} \cdot \frac{8 \cdot \cancel{(2x-3)}}{9 \cdot \cancel{(5+3x)}} = \frac{\cancel{3}^{1} \cdot \cancel{8}^{4}}{\cancel{2}_{1} \cdot \cancel{9}_{3}} = \frac{1 \cdot 4}{1 \cdot 3} = \frac{\mathbf{4}}{\mathbf{3}} = \mathbf{1\frac{1}{3}}$$

$$\frac{6z+3}{2z-6} : \frac{6z+12}{8z-24} = \frac{6z+3}{2z-6} \cdot \frac{8z-24}{6z+12} =$$

$$= \frac{\cancel{3}^{1} \cdot (2z+1)}{\cancel{2}_{1} \cdot \cancel{(z-3)}} \cdot \frac{\cancel{8}^{4} \cdot \cancel{(z-3)}}{\cancel{6}_{2} \cdot (z+2)} = \frac{(2z+1) \cdot 4^{2}}{\cancel{2}_{1} \cdot (z+2)} = \frac{\mathbf{2 \cdot (2z+1)}}{\mathbf{(z+2)}}$$

$$(6y+3)^2 : 36y^2 - 9 = \frac{(6y+3)^2}{1} \cdot \frac{1}{36y^2-9} =$$

$$= \frac{\cancel{(6y+3)} \cdot (6y+3)}{1} \cdot \frac{1}{\cancel{(6y+3)} \cdot (6y-3)} = \frac{\mathbf{6y+3}}{\mathbf{6y-3}}$$

$$\frac{2y+2}{3x-1} : \frac{4y^2-4}{9x^2-1} = \frac{2y+2}{3x-1} \cdot \frac{9x^2-1}{4y^2-4} =$$

$$= \frac{\cancel{2y+2}}{\cancel{3x-1}} \cdot \frac{\cancel{(3x-1)} \cdot (3x+1)}{\cancel{(2y+2)} \cdot (2y-2)} = \frac{\mathbf{3x+1}}{\mathbf{2y-2}}$$

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