Bruchterme multiplizieren für Könner

Lösungsblatt

Level 1 :

$$\frac{2z+4}{6z-4}\cdot\frac{12z-8}{z+2}=\frac{2\cdot\cancel{(z+2)}}{2\cdot\cancel{(3z-2)}}\cdot\frac{4\cdot\cancel{(3z-2)}}{\cancel{z+2}}=\frac{\cancel{2}\cdot 4}{\cancel{2}}=\frac{4}{1}=\mathbf{4}$$

$$\frac{15+9z}{8z-12}\cdot\frac{16z-24}{45+27z}=\frac{3\cdot\cancel{(5+3z)}}{4\cdot\cancel{(2z-3)}}\cdot\frac{8\cdot\cancel{(2z-3)}}{9\cdot\cancel{(5+3z)}}=\frac{\cancel{3}^{1}\cdot\cancel{8}^{2}}{4_{1}\cdot\cancel{9}_{3}}=\frac{1\cdot 2}{1\cdot 3}=\mathbf{\frac{2}{3}}$$

$$\frac{5x+15}{12-6x}\cdot\frac{6-3x}{30+10x}=\frac{5\cdot\cancel{(x+3)}}{6\cdot\cancel{(2-x)}}\cdot\frac{3\cdot\cancel{(2-x)}}{10\cdot\cancel{(3+x)}}=\frac{\cancel{5}^{1}\cdot\cancel{3}^{1}}{\cancel{6}_{2}\cdot\cancel{10}_{2}}=\frac{1\cdot 1}{2\cdot 2}=\mathbf{\frac{1}{4}}$$

$$\frac{6y+3}{2y-6}\cdot\frac{5y-15}{6y+12}=\frac{\cancel{3}\cdot(2y+1)}{2\cdot\cancel{(y-3)}}\cdot\frac{5\cdot\cancel{(y-3)}}{\cancel{6}_{2}\cdot(y+2)}=\frac{(2y+1)\cdot 5}{2\cdot 2\cdot(y+2)}=\mathbf{\frac{5\cdot(2y+1)}{4\cdot(y+2)}}$$

Level 2 :

$$(5x+3)^2\cdot\frac{1}{25x^2-9}=\frac{\cancel{(5x+3)}\cdot(5x+3)}{1}\cdot\frac{1}{\cancel{(5x+3)}\cdot(5x-3)}=\mathbf{\frac{5x+3}{5x-3}}$$

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

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

$$\left(a-\frac{b}{c}\right)\cdot\left(a+\frac{b}{c}\right)=a^2-\left(\frac{b}{c}\right)^2=\mathbf{a^2-\frac{b^2}{c^2}}$$

Lösungen Level 1:

Lösungen Level 2:

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