

1. Stegreifaufgabe aus der Mathematik

Klasse 8

- Lösungen -

1. a) $\frac{2a}{3a-4b}$ Erweiterungsfaktor: $3b$

$$\frac{2a \cdot 3b}{3b \cdot (3a-4b)} = \frac{6ab}{\underline{\underline{9ab-12b^2}}}$$

b) $\frac{2x-3}{2x+3}$ Erweiterungsfaktor: $2x+3$

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

c) $\frac{v}{7v-6w}$ Erweiterungsfaktor: $6w+7v$

$$\frac{v}{-6w+7v} = \frac{-v}{6w-7v} = \frac{-v(6w+7v)}{(6w-7v)(6w+7v)} = \frac{-v(6w+7v)}{\underline{\underline{36w^2-49v^2}}}$$

2. a) $\frac{x^5}{x^2} = x^{5-2} = \underline{\underline{x^3}}$

b) $\frac{2xy}{6yz} = \frac{x}{\underline{\underline{3z}}}$

c) $\frac{42a^2bc^3}{63abc^4} = \frac{2a}{\underline{\underline{3c}}}$

d) $\frac{xy-y}{xyz} = \frac{y(x-1)}{xyz} = \frac{x-1}{\underline{\underline{xz}}}$

e) $\frac{na-nb}{3a-3b} = \frac{n(a-b)}{3(a-b)} = \frac{n}{\underline{\underline{3}}}$

f) $\frac{42rs-14s}{21rs^2-7s^2} = \frac{14s(3r-1)}{7s^2(3r-1)} = \frac{2}{\underline{\underline{s}}}$