

Wiederholung: Multiplikation/Division von Bruchtermen

- a) $\frac{12xy^2}{25z} \cdot \frac{65xz^3}{24x^4z}$
- b) $\frac{30ab^2c}{7d} \cdot \frac{5bd^4}{18a^2c^3} : \frac{25a^2b^3d^3}{14}$
- c) $\frac{12x^2y^3z}{5} : \left(\frac{9xz^2}{25y^3} : \frac{3z}{50y^2} \right)$
- d) $\frac{14e^2fg^3}{5h^2} : \frac{15f}{21ef^2} \cdot \frac{15f}{8g^4} \cdot 2h$
- e) $\frac{5a^2b}{8c^2} : (15b^3c) : \frac{5b}{3ac^3}$
- f) $\frac{5m^2n}{10m-14n} \cdot \frac{25m^2-35mn}{25n^3} : (3mn)$
- g) $\frac{15a^2+12ab^2}{7a-5b+c} : \frac{35a^3+28a^2b^2}{5b-7a-c} \cdot \left(-\frac{1}{3}a^2b\right)$
- h) $\frac{16p^4-81q^4}{60pq^2+(5p-3q^2)^2} \cdot \frac{2p+3}{8p^3+18pq^2} : \frac{6p+9}{5p+3q^2}$
- i) $\frac{7x^4-28x^3y+28x^2y^2}{24x^2y+24xy+6y} : \left[(14x^2-28xy) \cdot \frac{x^3-4xy^2}{12x^2+12x+3} \right]$
- j) $\left(\frac{a}{b}-\frac{b}{a}\right) : \left(1+\frac{a}{b}\right)$
- k) $\frac{4x^3y^2-xy^4}{x^2-2xy+y^2} \cdot \left(\frac{x}{4x^2-4xy+y^2}-\frac{x+2y}{4x^2-y^2}\right)$
- l) $\left(\frac{x}{2y}+\frac{x^2+1}{y^2-2xy}\right) \cdot \left(\frac{y}{x}-2\right)$
- m) $\left[\left(\frac{a}{4b}-\frac{b}{3a}\right)^2+\left(\frac{b}{4a}+\frac{a}{3b}\right)^2\right] : \frac{25a^2}{144b^2}$
- n) $\left(\frac{2}{x}-\frac{12y}{x^2}+\frac{18y^2}{x^3}\right) : (4x^3-36xy^2)$
- o) $\frac{\frac{c}{d}-\frac{d}{c}}{\frac{c}{d}+2+\frac{d}{c}}$
- p) $\frac{4q^2+12qr+9r^2-4pq^2-12pqr-9pr^2}{8q^2-18r^2-8pq^2+18pr^2} - \frac{3}{2^p}$
- q) $\frac{\frac{z+3}{z-3}-\frac{z-3}{z+3}}{\frac{z+3}{z-3}+\frac{z-3}{z+3}}$
- r) $\frac{\frac{f^2-16g^2+24gh-9h^2}{2g-h}}{3f^2+12fg-9fh} + \frac{1}{\frac{(6fg-3fh)(f-4g+3h)}{f^2-16g^2+24gh-9h^2}}$
- s) $\frac{\frac{178a^2b-53c^3}{8c^4-9b^2}-\frac{21ab^2-17cd^3}{8ac^2+d}}{\frac{17cd^3-21ab^2}{d+8ac^2}+\frac{53c^3-178a^2b}{9b^2-8c^4}}$ (Nicht rechnen, nur denken!)

Ergebnisse:

a) $\frac{13y^2z}{10x^2}$

c) $\frac{2xy^4}{5}$

e) $\frac{7a^4}{8b^2}$

g) $\frac{ab}{7}$

i) $\frac{1}{4y(x+2y)}$

k) $-\frac{2xy^3}{(x-y)(2x-y)}$

m) $\frac{a^4+b^4}{a^4}$

o) $\frac{c-d}{c+d}$

q) $\frac{6z}{z^2+9}$

s) 1

b) $\frac{2}{3a^3c^2}$

d) $\frac{e}{2gh}$

f) $\frac{m^2}{6n^3}$

h) $\frac{(2p+3q)(2p-3q)}{6p(5p+3q^2)}$

j) $\frac{a-b}{a}$

l) $\frac{xy+2}{2xy}$

n) $\frac{x-3y}{2x^4(x+3y)}$

p) $\frac{9pr}{2q-3r}$

r) $\frac{2}{3(2g-h)}$