

Seite 84, A2

2.

	a)	b)	c)	d)	e)	f)
erweitert mit	$\frac{5}{2+x}$	$\frac{-9}{7-x}$	$\frac{x}{x-3}$	$\frac{-4x}{x-11}$	$\frac{19x}{21+x}$	$\frac{-12x}{-21+x}$
x	$\frac{5x}{2x+x^2}$	$\frac{-9x}{7x-x^2}$	$\frac{x^2}{x^2-3x}$	$\frac{-4x^2}{x^2-11x}$	$\frac{19x^2}{21x+x^2}$	$\frac{-12x^2}{-21x+x^2}$
x+2	$\frac{5x+10}{x^2+4x+4}$	$\frac{-9x-18}{-x^2+5x+14}$	$\frac{x^2+2x}{x^2-x-6}$	$\frac{-4x^2-8x}{x^2-9x-22}$	$\frac{19x^2+38x}{x^2+23x+42}$	$\frac{-12x^2-24x}{x^2-19x-42}$
x-3	$\frac{5x-15}{x^2-x-6}$	$\frac{-9x+27}{-x^2+10x-21}$	$\frac{x^2-3x}{x^2-6x+9}$	$\frac{-4x^2+12x}{x^2-14x+33}$	$\frac{19x^2-57x}{x^2+18x-63}$	$\frac{-12x^2+36x}{x^2-24x+63}$
x+7	$\frac{5x+35}{x^2+9x+14}$	$\frac{-9x-63}{-x^2+49}$	$\frac{x^2+7x}{x^2+4x-21}$	$\frac{-4x^2-28x}{x^2-4x-77}$	$\frac{19x^2+133x}{x^2+28x+147}$	$\frac{-12x^2-84x}{x^2-14x-147}$

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3. a) $\frac{3x}{2a} = \frac{12x}{8a}$ b) $\frac{7n}{5z} = \frac{21an}{15az}$ c) $\frac{3a}{a+7} = \frac{24a}{8a+56}$ d) $\frac{x-y}{x+3} = \frac{x^2-xy}{x^2+3x}$

4. a) $\frac{3(x+3)}{3(x-5)} = \frac{x+3}{x-5}$ b) $\frac{6(2a-3)}{6(a-3)} = \frac{2a-3}{a-3}$ c) $\frac{14(y-1)}{2(5y+4)} = \frac{7(y-1)}{5y+4}$

d) $\frac{7(x+1)}{7(x-2)} = \frac{x+1}{x-2}$ e) $\frac{4(a+3)}{12(a+1)} = \frac{a+3}{3(a+1)}$ f) $\frac{3(3y-30)}{3(2y+12)} = \frac{3y-30}{2y+12}$

g) $\frac{x(x+9)}{x(9-x)} = \frac{x+9}{9-x}$ h) $\frac{3(8x-5)}{9(4-3x)} = \frac{8x-5}{3(4-3x)}$ i) $\frac{5x^2(1-3x^2)}{x^2(1+x)} = \frac{5(1-3x^2)}{1+x}$

5. a) $\frac{y^2}{15y} = \frac{y}{15}$ b) $\frac{y(y+1)}{3y} = \frac{y+1}{3}$ c) $\frac{15d-35}{15d(d-7)} = \frac{5(3d-7)}{15d(d-7)} = \frac{3d-7}{3d(d-7)}$

d) $\frac{9x+27}{(x+3) \cdot 4x} = \frac{9}{4x}$ e) $\frac{12b-24}{(b-2) \cdot 18b} = \frac{2}{3b}$ f) $\frac{5x-35}{(x-7)(x+7)} = \frac{5}{x+7}$

g) $\frac{7x-14}{(x+2)(x-2)} = \frac{7}{x+2}$ h) $\frac{(x-4)(x+3)}{2x-8} = \frac{x+3}{2}$ i) $\frac{z^2-14z}{z-14} = z$

k) $\frac{12m^2+6}{3m+6} = \frac{4m^2+2}{m+2}$

6. a) $\frac{1}{x+4}$ b) $\frac{1}{x+5}$ c) $\frac{8}{y-3}$

d) $\frac{2}{x+3}$ e) $\frac{2}{x-4}$ f) $\frac{5}{y+6}$