Aufgaben zum Faktorisieren (Ausklammern)

Nr.	Chili-Schote	Term	Ausklammern 1	Ausklammern 2
1.	1	$3x^3+12x^2+6x$	$x \quad x\left(3x^2+12x+6\right)$	$3 \quad 3\left(x^3+4x^2+2\right)$
		$25x^4-5x^3+10x$	x $x\left(25x^3-5x^2+10\right)$	$5 \quad 5\left(5x^4-x^3+2x\right)$
2.	1	$12x^6-6x^2+18x$	$3x \quad 3x\left(4x^5-2x+6\right)$	$6x \quad 6x\left(2x^5-x+3\right)$
		$8x^5+12x^4-4x$	$2x$ $2x\left(4x^4+6x^3-2\right)$	$4x$ $4x\left(2x^4+3x^3-1\right)$
3.	1	$12tx^4-36t^2x^5+24tx$	$3x$ $3x\left(4tx^3-12t^2x^4+8t\right)$	$4t$ $4t\left(3x^4-9tx^5+6x\right)$
		$12t^2x^3-36t^2x+24tx$	$3t$ $3t\left(4tx^3-12tx+8x\right)$	$6x$ $6x\left(2t^2x^2-6t^2+3t\right)$
4.	1	$a^2b^3-ab^2+a^3b$	$a \quad a\left(ab^3-b^2+a^1b\right)$	$b\left(a^2b^2-ab+a^3\right)$
		$a^3b^2+a^2b-ab^3$	$a \quad a\left(a^2b^2+ab-b^3\right)$	$b \quad b\left(a^3b+a^2-ab^2\right)$
5.	2	$6a^4x^2-12a^2x^3$	$3x^2$ $3x^2\left(2a^4-4a^2x\right)$	$6a^2 \quad 6a^2\left(a^2x^2-2x^3\right)$
		$8a^2x^4+16a^3x^2$	$8x^2 \quad 8x^2\left(a^2x^2+2a^3\right)$	$4a^2$ $4a^2\left(2x^4+4ax^2\right)$
6.	2	$\frac{7}{6}t^4x^5-\frac{1}{12}t^3x^3$	$\frac{1}{3}t^3$ $\frac{1}{3}t^3\left(\frac{7}{2}tx^5-\frac{1}{4}x^3\right)$	$\frac{1}{2}x^3$ $\frac{1}{2}x^3\left(\frac{7}{3}t^4x^2-\frac{1}{6}t^3\right)$
		$\frac{4}{35}t^6x^3-\frac{6}{70}t^4x^5$	$\frac{1}{7}t^3$ $\frac{1}{7}t^3\left(\frac{4}{5}t^3x^3-\frac{6}{10}tx^5\right)$	$\frac{2}{5}x^2$ $\frac{2}{5}x^2\left(\frac{2}{7}t^6x-\frac{3}{14}t^4x^3\right)$
7.	2	$\frac{a^5}{x^7}-\frac{a^6}{x^5}$	$a^5 \quad a^5\left(\frac{1}{x^7}-\frac{a}{x^5}\right)$	$\frac{1}{x^5} \quad \frac{1}{x^5}\left(\frac{a^5}{x^2}-a^6\right)$
		$\frac{a^4}{x^8}-\frac{a^6}{x^3}$	$a^4 \quad a^4\left(\frac{1}{x^8}-\frac{a^2}{x^3}\right)$	$\frac{1}{x^3} \quad \frac{1}{x^3}\left(\frac{a^4}{x^5}-a^6\right)$

8.	2	$\frac{4t^5}{6p^7}+\frac{8t^3}{18p^7}$	$\frac{t^2}{3}$ $\frac{t^2}{3}\left(\frac{4t^3}{2p^7}+\frac{8t}{6p^7}\right)$	$\frac{4}{p^4}$ $\frac{4}{p^4}\left(\frac{t^5}{6p^3}+\frac{2t^3}{18p^3}\right)$
		$\frac{3t^6}{8p^4}+\frac{9t^7}{2p^5}$	$\frac{t^3}{2}$ $\frac{t^3}{2}\left(\frac{3t^3}{4p^4}+\frac{9t^4}{p^5}\right)$	$\frac{3}{p^2}$ $\frac{3}{p^2}\left(\frac{t^3}{4p^2}+\frac{3t^4}{p^3}\right)$
9.	3	$e^{x+3}-4e^{2x+4}$	e^2 $e^2\left(e^{x+1}-4e^{2x+2}\right)$	e^x $e^x\left(e^3-4e^{x+4}\right)$
		$e^{5x+6}+e^{2(x+1)}$	e^2 $e^2\left(e^{5x+4}+e^{2x}\right)$	e^{2x} $e^{2x}\left(e^{3x+6}+e^2\right)$
10.	3	$-6a^3b^2+18a^5b^3$	$-3a^4b$ $\left(-3a^4b\right)\left(2a^{-1}b-6ab^2\right)$	$-6ab^4$ $\left(-6ab^4\right)\left(a^2b^{-2}-3a^4b^-\right.$
		$8a^6b^4-12a^4b^3$	$-2a^3b^4$ $\left(-2a^3b^4\right)\left(-4a^3+6ab^{-1}\right.$	$-4a^5b^2$ $\left(-4a^5b^2\right)\left(-2ab^2+3a^{-1}\right.$
11.	3	$4x^5-5x^3+x^2$	$2x^2$ $2x^2\left(2x^3-\frac{5}{2}x+\frac{1}{2}\right)$	$5x$ $5x\left(\frac{4}{2}x^4-x^2+\frac{1}{5}x\right)$
		$3x^6+2x^4-x^3$	$3x^3$ $3x^3\left(x^3+\frac{2}{3}x-\frac{1}{3}\right)$	$2x^2$ $2x^2\left(\frac{3}{2}x^4+x^2-\frac{1}{2}x\right)$
12.	3	$a^3b^2-a^5b^4$	a^{-3} $a^{-3}\left(b^2-a^2b^4\right)$	b^2 $b^2\left(a^3-a^5b^2\right)$
		$a^4b^5+a^2b^3$	a^{-2} $a^{-2}\left(a^2b^5+b^3\right)$	b^{-3} $b^{-3}\left(a^4b^2+a^2\right)$