Lösungen Polynomdivision I

Ergebnisse:

E1	Ergebnisse	
	a)	$\left(x^3+2x^2-5x-6\right):(x+3)=x^2-x-2$
	b)	$\left(2x^3-14x-12\right):(x+2)=2x^2-4x-6$
	c)	$\left(3x^3-15x^2-51x+63\right):(x+3)=3x^2-24x+21$
	d)	$\left(\frac{1}{2}x^3-\frac{3}{2}x^2-2x+6\right):(x-2)=\frac{1}{2}x^2-\frac{1}{2}x-3$
	e)	$\left(x^3+\frac{11}{2}x^2+5x-4\right):(x+4)=x^2+\frac{3}{2}x-1$
	f)	$\left(x^3+\frac{3}{2}x^2-\frac{11}{2}x-3\right):\left(x+\frac{1}{2}\right)=x^2+x-6$
	g)	$\left(x^3-\frac{5}{4}x^2-\frac{23}{4}x+\frac{3}{2}\right):\left(x-\frac{1}{4}\right)=x^2-x-6$
	h)	$\left(x^3-\frac{5}{3}x^2-\frac{47}{3}x-5\right):\left(x+\frac{1}{3}\right)=x^2-2x-15$
	i)	$\left(x^3-\frac{7}{4}x+\frac{3}{4}\right):\left(x-\frac{1}{2}\right)=x^2+\frac{1}{2}x-\frac{3}{2}$
	j)	$\left(x^3-\frac{7}{4}x+\frac{3}{4}\right):\left(x+\frac{3}{2}\right)=x^2-\frac{3}{2}x+\frac{1}{2}$
	k)	$\left(x^3-\frac{5}{4}x^2-\frac{23}{4}x+\frac{3}{2}\right):(x+2)=x^2-\frac{13}{4}x+\frac{3}{4}$
	l)	$\left(x^3-\frac{5}{3}x^2-\frac{47}{3}x-5\right):(x-5)=x^2+\frac{10}{3}x+1$
	m)	$\left(x^3-\frac{7}{4}x+\frac{3}{4}\right):(x-1)=x^2+x-\frac{3}{4}$
	n)	$\left(\frac{1}{2}x^3-\frac{3}{2}x^2-2x+6\right):(x-3)=\frac{1}{2}x^2-2$

E2	Ergebnisse	
	a)	$\left(x^3-3x^2-6x+8\right):(x+1)=x^2-4x-2+\frac{10}{x+1}$
	b)	$\left(2x^3-x^2-8x+4\right):\left(x^2-4\right)=2x-1$
	c)	$\left(2x^3-3x+1\right):(2x-1)=x^2+\frac{1}{2}x-\frac{5}{4}-\frac{1}{4(2x-1)}$
	d)	$\left(x^3-tx^2-2x+2t\right):\left(x^2-2\right)=x-t$

E3	Ergebnisse	
	a)	$\left(8x^5-6x^7+2x\right):2x^2=4x^3-3x^5+\frac{1}{x}$
	b)	$\left(9a^5b^3-12a^3b^5\right):3a^3b^3=3a^2-4b^2$
	c)	$\left(6a^6+a^4b+25b^3\right):\left(3a^2+5b\right)=2a^4-3a^2b+5b^2$
	d)	$\left(15a^9-8a^6b+8b^3\right):\left(3a^3+2b\right)=5a^6-6a^3b+4b^2$
	e)	$\left(14a^4-a^3+5a^2-3a+1\right):\left(7a^2-4a+1\right)=2a^2+a+1$
	f)	$\left(a^5+a^4-8a^3+26a^2-29a+21\right):\left(a^2-2a+3\right)=a^3+3a^2-5a+7$
	g)	$\left(a^3-2a^2b+2ab^2-b^3\right):\left(a-b\right)=a^2-ab+b^2$
	h)	$\left(a^3+2a^2b+2ab^2+b^3\right):\left(a+b\right)=a^2+ab+b^2$

E4	Ergebnisse	
	a)	$\frac{3x^5y^{n+2}+3x^2y^{3n+2}-2x^{m+3}y^{n+3}-2x^my^{3n+3}}{x^3+y^{2n}}=3x^2y^{n+2}-2x^my^{n+3}$
	b)	$\frac{48a^{n+x}+56a^xb^x-72a^nb^c-84b^{x+c}}{12a^n+14b^x}=4a^x-6b^c$
	c)	$\frac{8a^{2n+1}-10a^{2n}b+15a^{3n-2}b-12a^{3n-1}}{2a^{2n}-3a^{3n-2}}=4a-5b$
	d)	$\frac{2a^5b^{x+2}-2a^3b^{x+5}+3a^4b^{2x-1}-3a^2b^{2x+2}}{a^2-b^3}=2a^3b^{x+2}+3a^2b^{2x-1}$