Kwadraat afsplitsen

ANTWOORDEN

1. $x^2+4x+1=(x+2)^2-3$
2. $2x^2+6x-2=2(x^2+3x-1)=2((x+1\frac{1}{2})^2-3\frac{1}{4})=2(x+1\frac{1}{2})^2-6\frac{1}{2}$
3. $x-2x^2=-2(x^2-\frac{1}{2}x)=-2((x-\frac{1}{2})^2-\frac{1}{4})=-2(x-\frac{1}{2})^2+\frac{1}{2}$
4. $4x^2+12x+5=4(x^2+3x+\frac{5}{4})=4((x+1\frac{1}{2})^2-1)=4(x+1\frac{1}{2})^2-4$
5. $3x-x^2=-(x^2-3x)=-((x-1\frac{1}{2})^2-2\frac{1}{4})=-(x-1\frac{1}{2})^2+2\frac{1}{4}$
6. $x(x-2)=x^2-2x=(x-1)^2-1$
7. $2x^2-4x+1=2(x^2-2x+\frac{1}{2})=2((x-1)^2-\frac{1}{2})=2(x-1)^2-1$
8. $3x^2-9x+5=3(x^2-3x+\frac{5}{3})=3((x-1\frac{1}{2})^2-\frac{7}{12})=3(x-1\frac{1}{2})^2-\frac{7}{4}$
9. $x^2-6x+3=(x-3)^2-6$
10. $\frac{1}{2}x^2+x=\frac{1}{2}(x^2+2x)=\frac{1}{2}((x+1)^2-1)=\frac{1}{2}(x+1)^2-\frac{1}{2}$
11. $16x-8x^2=-8(x^2-2x)=-8((x-1)^2-1)=-8(x-1)^2+8$
12. $6x^2+6x+6=6(x^2+x+1)=6((x+\frac{1}{2})^2+\frac{3}{4})=6(x+\frac{1}{2})^2+1\frac{1}{2}$
13. $\frac{1}{3}x^2-4x+2=\frac{1}{3}(x^2-12x+6)=\frac{1}{3}((x-6)^2-30)=\frac{1}{3}(x-6)^2-10$
14. $(2x+6)(x-1)=2x^2+4x-6=2(x^2+2x-3)=2((x+1)^2-4)=2(x+1)^2-8$
15. $x^4-4x^2+5=(x^2-2)^2+1$