Aufgabenblatt ‚Binome multiplizieren'

1. $(x+3)^2 = (x+3)\cdot(x+3) = x^2+3x+3x+9 = x^2+6x+9$

2. $(x-3)^2 = (x-3)\cdot(x-3) = x^2-3x-3x+9 = x^2-6x+9$

3. $(x+3)(x-3) = x^2-3x+3x-9 = x^2-9$

4. $\left(x+\frac{1}{3}\right)^2 = \left(x+\frac{1}{3}\right)\cdot\left(x+\frac{1}{3}\right) = x^2+\frac{x}{3}+\frac{x}{3}+\frac{1}{9} = x^2+\frac{2x}{3}+\frac{1}{9}$

5. $\left(x-\frac{1}{3}\right)^2 = \left(x-\frac{1}{3}\right)\cdot\left(x-\frac{1}{3}\right) = x^2-\frac{x}{3}-\frac{x}{3}+\frac{1}{9} = x^2-\frac{2x}{3}+\frac{1}{9}$

6. $\left(x+\frac{1}{3}\right)\left(x-\frac{1}{3}\right) = x^2-\frac{x}{3}+\frac{x}{3}-\frac{1}{9} = x^2-\frac{1}{9}$

7. $\left(\frac{x}{3}+1\right)^2 = \left(\frac{x}{3}+1\right)\cdot\left(\frac{x}{3}+1\right) = \frac{x^2}{9}+\frac{x}{3}+\frac{x}{3}+1 = \frac{x^2}{9}+\frac{2x}{3}+1$

8. $\left(\frac{x}{3}-1\right)^2 = \left(\frac{x}{3}-1\right)\cdot\left(\frac{x}{3}-1\right) = \frac{x^2}{9}-\frac{x}{3}-\frac{x}{3}+1 = \frac{x^2}{9}-\frac{2x}{3}+1$

9. $\left(\frac{x}{3}+1\right)\left(\frac{x}{3}-1\right) = \frac{x^2}{9}-\frac{x}{3}+\frac{x}{3}-1 = \frac{x^2}{9}-1$