

(1) Wende die binomischen Formeln an.

$$\begin{aligned} \text{a)} \quad & x^2 + 2xy + y^2 \\ & x^2 - 2xy + y^2 \\ & x^2 - y^2 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & r^2 + 2rs + s^2 \\ & e^2 - 2ef + f^2 \\ & c^2 - d^2 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad & 25a^2 + 60ab + 36b^2 \\ & 49x^2 - 14xy + y^2 \\ & 25r^2 - 36 \\ & \frac{1}{9}x^2 + \frac{2}{15}xy + \frac{1}{25}y^2 \end{aligned}$$

$$\begin{aligned} \text{d)} \quad & 16 - 8x + x^2 \\ & a^2 - 14a + 49 \\ & -9 - 6z - z^2 \\ & 81a^2 + 144ab + 64b^2 \end{aligned}$$

(2) Wende erst binomische Formeln an. Fasse dann zusammen.

$$\begin{aligned} \text{a)} \quad & 8a + 8 \\ & 29x^2 - 26xy + 10y^2 \\ & 5r^2 - 4rs - 9s^2 \\ & 41a^2 + 116ab + 85b^2 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & -56r^2 + 886rs - 279s^2 \\ & 89a^2 + 48ab + 9b^2 - 4 \\ & 74x^2 - 90xy + 45y^2 \\ & 313u^2 - 622uv + 317v^2 \end{aligned}$$

$$\begin{aligned} \text{c)} \quad & 77x^2 - 126xy + 58y^2 \\ & 153u^2 - 48uv + 39v^2 \\ & 202a^2 - 408ab + 208b^2 \\ & -175^2 + 150xy - 200y^2 \end{aligned}$$

$$\begin{aligned} \text{d)} \quad & 116a^2 + 64ab + 114b^2 \\ & 194x^2 - 225y^2 \\ & -385r^2 + 1218rs - 513s^2 \\ & 229c^2 - 758cd + 231d^2 \end{aligned}$$

(3) Faktorisiere mit Hilfe der dritten binomischen Formel.

$$\begin{aligned} \text{a)} \quad & (r+s)(r-s) \\ & (u+v)(u-v) \\ & (b+3)(b-3) \\ & (1+a)(1-a) \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & (0.6+a)(0.6-a) \\ & (x+1.2)(x-1.2) \\ & (r+\frac{9}{5})(r-\frac{9}{5}) \\ & (0.3u+0.7v)(0.3u-0.7v) \end{aligned}$$

(4) Wende die erste oder zweite binomische Formel an.

$$\begin{aligned} \text{a)} \quad & (u+v)^2 \\ & (5+u)^2 \\ & (y-7)^2 \\ & (\frac{2}{3}+c)^2 \end{aligned}$$

$$\begin{aligned} \text{b)} \quad & (3a+b)^2 \\ & (r-8s)^2 \\ & (2a+10b)^2 \\ & (12z-15y)^2 \end{aligned}$$