

## Lösungen zu den Binomischen Formeln

### Lösung 1:

- a)  $16 + 8x + x^2$       b)  $1 - 2b + b^2$   
c)  $r^2 + 12r + 36$       d)  $4v^2 - 4v + 1$   
e)  $25c^2 + 70cd + 49d^2$       f)  $0,25x^2 + 2xy + 4y^2$   
g)  $4s^2 - 16s + 16$       h)  $u^2 + 3uv + \frac{9}{4}v^2$

### Lösung 2:

- a)  $a^2 - \frac{1}{4}$       b)  $a^2 - \frac{1}{16}$   
c)  $\frac{9}{49} - a^2$       d)  $a^2 + \frac{2}{5}a + \frac{1}{25}$   
e)  $a^2 + \frac{4}{3}a + \frac{4}{9}$       f)  $\frac{49}{81} + \frac{14}{9}a + a^2$

### Lösung 3:

- a)  $d^2 + 4d + 4 + d^2 - 2d + 1 = 2d^2 + 2d + 5$   
b)  $4r^2 - 12rs + 9s^2 - 4s^2 + 20rs - 25r^2 = -21r^2 + 8rs + 5s^2$   
c)  $256a^2 + 352ab + 121b^2 - 225a^2 + 570ab - 361b^2 = 31a^2 + 922ab - 240b^2$   
d)  $16x^2 - 40xy + 25y^2 + 81x^2 - 25y^2 = 97x^2 - 40xy$   
e)  $36a^2 - 121b^2 - 64a^2 + 112ab - 49b^2 = -28a^2 + 112ab - 170b^2$

### Lösung 4:

- a)  $x^4 + 2x^2y^2 + y^4 - (x^4 - 2x^2y^2 + y^4) = 4x^2y^2$   
b)  $a^4 - 2a^2 + 1 + 1 - 2a^2 + a^4 = 2a^4 - 4a^2 + 2$   
c)  $9u^4 - 12u^2 + 4 - (36u^4 + 12u^2 + 1) = -27u^4 - 24u^2 + 3$   
d)  $r^4 + 4r^2s^2 + 4s^4 + r^4 - 4r^2s^2 + 4s^4 = 2r^4 + 8s^4$   
e)  $25a^2 - 30a + 9 - (4a^2 - 25) = 21a^2 - 30a + 34$   
f)  $4x^4 + 4x^2y + y^2 - (x^4 - 4x^2y + 4y^2) = 3x^4 + 8x^2y - 3y^2$   
g)  $s^4 - 16t^2 - (4s^4 - 9t^2) = -3s^4 - 7t^2$