Binomische Formeln - Lösung:

1. a) $(a-3)^2 = a^2 - 6a + 9$
   b) $(6-e)(6+e) = 36 - e^2$
   c) $(a+2y)(a-2y) = a^2 - 4y^2$
   d) $(3a+7b)^2 = 9a^2 + 42ab + 49b^2$
   e) $(1{,}5+4c)^2 = 2{,}25 + 12c + 16c^2$
   f) $(1+3b)(1-3b) = 1 - 9b^2$
   g) $(3a-7b)(3a+7b) = 9a^2 - 49b^2$
   h) $(2-0{,}1c)^2 = 4 - 0{,}4c + 0{,}01c^2$
   i) $(1{,}4a-4b)^2 = 1{,}96a^2 - 11{,}2ab + 16b^2$
   j) $(0{,}5a+3y)^2 = 0{,}25a^2 + 3ay + 9y^2$
   k) $(1{,}2a+0{,}6d)^2 = 1{,}44a^2 + 1{,}44ad + 0{,}36d^2$
   l) $(1{,}1d - 0{,}7e)^2 = 1{,}21d^2 - 1{,}54de + 0{,}49e^2$

2. a) $d^2 - 22d + 121 = (d-11)^2$
   b) $25 - 10a + a^2 = (5-a)^2$
   c) $36x^2 - 49 = (6x+7)(6x-7)$
   d) $d^2 + 12def + 36e^2f^2 = (d+6ef)^2$
   e) $0{,}36a^2 - 0{,}49b^2 = (0{,}6a+0{,}7b)(0{,}6a-0{,}7b)$
   f) $0{,}09b^2 - 0{,}6b + 1 = (0{,}3b-1)^2$
   g) $0{,}64f^2 - e^2 = (0{,}8f+e)(0{,}8f-e)$
   h) $16a^2 + 8ab + b^2 = (4a+b)^2$
   i) $1 - 2x^2y + x^4y^2 = (1-x^2y)^2$
   j) $0{,}25x^2 + x + 1 = (0{,}5x+1)^2$
   k) $0{,}81c^2 - 0{,}16d^2 = (0{,}9c+0{,}4d)(0{,}9c-0{,}4d)$
   l) $36a^2 + 24ab^2 + 4b^2 = (6a+2b)^2$

3. a) $(c+\underline{\ d\ })^2 = c^2 + \underline{\ 2cd\ } + d^2$
   b) $(\underline{\ a\ } - 2)^2 = a^2 - 4a + \underline{\ 4\ }$
   c) $(5-\underline{\ a\ })(\underline{\ 5\ } + a) = 25 - a^2$
   d) $(\underline{\ 2a\ } + 9c)^2 = \underline{\ 4a^2\ } + 36ac + 81c^2$
   e) $\underline{\ 36a^2\ } - 36a + 9 = (\underline{\ 6a\ } - 3)^2$
   f) $36x^2 - \underline{\ 1\ } = (\underline{\ 6x\ } - 1)(\underline{\ 6x\ } + 1)$