

# Binomische Formeln

Erklärvideo



[t1p.de/terme15](http://t1p.de/terme15)

LearningSnack



[t1p.de/terme16](http://t1p.de/terme16)

Onlineübungen



[erklaerung-und-mehr.org](http://erklaerung-und-mehr.org)

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x + y)^2 =$	(K) $x^2 + 2xy + y^2$	(M) $x^2 + 4x + 4$	(F) $x^2 + 8x + 16$
2. $(x + 2)^2 =$	(X) $x^2 + 8x + 16$	(G) $x^2 + 6x + 9$	(R) $x^2 + 4x + 4$
3. $(x + 4)^2 =$	(E) $x^2 + 8x + 16$	(O) $x^2 + 6x + 9$	(F) $x^2 + 2xy + y^2$
4. $(x + 3)^2 =$	(B) $x^2 + 2xy + y^2$	(U) $x^2 + 6x + 9$	(Z) $x^2 + 4x + 4$
5. $(y + 2)^2 =$	(S) $y^2 + 12y + 36$	(Z) $y^2 + 4y + 4$	(A) $x^2 + 6x + 9$
6. $(y + 6)^2 =$	(F) $y^2 + 12y + 36$	(B) $x^2 + 6x + 9$	(P) $4x^2 + 12xy + 9y^2$
7. $(x + 3)^2 =$	(W) $4x^2 + 12xy + 9y^2$	(A) $x^2 + 6x + 9$	(U) $y^2 + 4y + 4$
8. $(2x + 3y)^2 =$	(H) $4x^2 + 12xy + 9y^2$	(G) $4y^2 + 4y + 9$	(B) $y^2 + 12y + 36$
9. $(3x + y)^2 =$	(T) $4x^2 + 4xy + y^2$	(B) $4x^2 + 12x + 9$	(R) $9x^2 + 6xy + y^2$
10. $(2x + y)^2 =$	(F) $4x^2 + 12x + 9$	(T) $4x^2 + 4xy + y^2$	(P) $x^2 + 6x + 9$
11. $(2x + 3)^2 =$	(B) $x^2 + 6x + 9$	(S) $4x^2 + 12x + 9$	(R) $9x^2 + 6xy + y^2$
12. $(x + 3)^2 =$	(C) $x^2 + 6x + 9$	(M) $9x^2 + 6xy + y^2$	(W) $4x^2 + 4xy + y^2$
13. $(2x + 3y)^2 =$	(V) $9x^2 + 6xy + y^2$	(B) $4x^2 + 4xy + y^2$	(H) $4x^2 + 12xy + 9y^2$
14. $(3x + y)^2 =$	(A) $4x^2 + 4xy + y^2$	(I) $9x^2 + 6xy + y^2$	(Y) $4x^2 + 12x + 9$
15. $(2x + y)^2 =$	(F) $4x^2 + 4xy + y^2$	(R) $4x^2 + 12x + 9$	(Z) $4x^2 + 12xy + 9y^2$
16. $(2x + 3)^2 =$	(H) $4x^2 + 12xy + 9y^2$	(V) $9x^2 + 6xy + y^2$	(F) $4x^2 + 12x + 9$

**Lösungswort:**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Aufgabenstellung: Löse die binomischen Formeln!

$$(3c + 4d)^2 = \quad (3u + 3v)^2 =$$

$$(4s + 1)^2 = \quad (3c + d)^2 =$$

$$(x + 2y)^2 = \quad (2x + 5y)^2 =$$

$$(g + 3h)^2 = \quad (4x + 5y)^2 =$$

Lösungen:  $9c^2 + 24cd + 16d^2$  /  $16s^2 + 8s + 1$  /  $x^2 + 4xy + 4y^2$  /  $9u^2 + 12uv + 9v^2$   
 $9c^2 + 6cd + d^2$  /  $4x^2 + 20xy + 25y^2$  /  $g^2 + 6gh + 9h^2$  /  $16x^2 + 40xy + 25y^2$

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x - y)^2 =$	(X) $x^2 - 6x + 9$	(G) $x^2 - 4x + 4$	(T) $x^2 - 2xy + y^2$
2. $(x - 3)^2 =$	(A) $x^2 - 6x + 9$	(O) $x^2 - 4x + 4$	(F) $y^2 - 10y + 25$
3. $(x - 2)^2 =$	(B) $y^2 - 10y + 25$	(N) $x^2 - 4x + 4$	(Z) $x^2 - 2xy + y^2$
4. $(y - 5)^2 =$	(S) $x^2 - 2xy + y^2$	(Z) $y^2 - 10y + 25$	(A) $y^2 - 6y + 25$
5. $(y - 1)^2 =$	(V) $y^2 - 2y + 1$	(B) $x^2 - 10x + 25$	(P) $4x^2 - 4xy + y^2$
6. $(x - 5)^2$	(W) $4x^2 - 4xy + y^2$	(E) $x^2 - 10x + 25$	(U) $9x^2 - 6xy + y^2$
7. $(2x - y)^2 =$	(R) $4x^2 - 4xy + y^2$	(G) $9x^2 - 6xy + y^2$	(B) $4x^2 - 4y + y^2$
8. $(3x - y)^2 =$	(T) $y^2 - 2y + 1$	(B) $x^2 - 10x + 25$	(A) $9x^2 - 6xy + y^2$
9. $(4x - y)^2 =$	(F) $x^2 - 8xy + 16y^2$	(N) $16x^2 - 8xy + y^2$	(P) $4x^2 - 12x + 9$
10. $(x - 4y)^2 =$	(B) $x^2 - 4xy + 16y^2$	(S) $x^2 - 8xy + 16y^2$	(R) $16x^2 - 32xy + 16y^2$
11. $(2x - 3)^2 =$	(T) $4x^2 - 12x + 9$	(M) $4x^2 - 32xy + 9y^2$	(W) $16x^2 - 8xy + y^2$
12. $(4x - 4y)^2 =$	(V) $16x^2 - 8xy + y^2$	(B) $16x^2 - 8xy + 16y^2$	(A) $16x^2 - 32xy + 16y^2$
13. $(2x - y)^2 =$	(A) $4x^2 - 6xy + y^2$	(L) $4x^2 - 4xy + y^2$	(Y) $4x^2 - 8xy + y^2$
14. $(3x - y)^2 =$	(T) $9x^2 - 6xy + y^2$	(R) $9^2 - 8xy + y^2$	(Z) $9x^2 - 8xy + 16y^2$
15. $(4x - y)^2 =$	(H) $x^2 - 8xy + 16y^2$	(V) $4x^2 - 4xy + y^2$	(U) $16x^2 - 8xy + y^2$
16. $(x - 4y)^2 =$	(N) $x^2 - 8xy + 16y^2$	(P) $x^2 - 4xy + 16y^2$	(C) $9x^2 - 6xy + y^2$
17. $(2x - 3)^2 =$	(S) $16x^2 - 32xy + 16y^2$	(G) $4x^2 - 12x + 9$	(M) $x^2 - y^2$

**Lösungswort:**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17

Aufgabenstellung: Löse die binomischen Formeln!

$$(3a - 4)^2 = \quad (9a - 4b)^2 =$$

$$(3a - 6)^2 = \quad (3a - 4b)^2 =$$

$$(8a - 2)^2 = \quad (2a - 3b)^2 =$$

$$(4a - 8)^2 = \quad (4a - 5b)^2 =$$

Lösungen:  $16a^2 - 64a + 64$  /  $81a^2 - 72ab + 16b^2$  /  $9a^2 - 24a + 16$  /  $9a^2 - 36a + 36$  /  
 $64a^2 - 32a + 4$  /  $9a^2 - 24ab + 16b^2$  /  $4a^2 - 12ab + 9b^2$  /  $16a^2 - 40ab + 25b^2$  /

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x + y) \cdot (x - y) =$	(T) $x^2 - y^2$	(M) $x^2 - 1$	(F) $y^2 - 9$
2. $(x + 1) \cdot (x - 1) =$	(X) $y^2 - 9$	(G) $y^2 - 16$	(E) $x^2 - 1$
3. $(y + 3) \cdot (y - 3) =$	(L) $y^2 - 9$	(O) $y^2 - 16$	(F) $x^2 - y^2$
4. $(y - 4) \cdot (y + 4) =$	(B) $x^2 - y^2$	(E) $y^2 - 16$	(Z) $x^2 - 1$
5. $(y + 5) \cdot (y - 5) =$	(S) $y^2 - 5$	(F) $y^2 - 25$	(A) $x^2 - 4y^2$
6. $(y - 3) \cdot (y + 3) =$	(O) $y^2 - 9$	(B) $x^2 - 9y^2$	(P) $4x^2 - 9y^2$
7. $(x + 2y) \cdot (x - 2y) =$	(W) $4x^2 - y^2$	(N) $x^2 - 4y^2$	(U) $y^2 - 4$
8. $(2x + 3y) \cdot (2x - 3y) =$	(G) $4x^2 - 9y^2$	(N) $4y^2 - 25$	(B) $4y^2 - 9$
9. $(x - 5y) \cdot (x + 5y) =$	(T) $25x^2 - 25y^2$	(B) $9 - 4y^2$	(E) $x^2 - 25y^2$
10. $(5x - 5y) \cdot (5x + 5y) =$	(F) $5 - 25x^2$	(S) $25x^2 - 25y^2$	(P) $25x^2 - 5$
11. $(3 - 2y) \cdot (3 + 2y) =$	(B) $y^2 - 9$	(P) $9x - 4y^2$	(R) $x^2 - 25y^2$
12. $(y - 3) \cdot (y + 3) =$	(R) $y^2 - 9$	(M) $x^2 - 9y^2$	(W) $9x^2 - 9y^2$
13. $(x + 2y) \cdot (x - 2y) =$	(V) $4x^2 - 2y^2$	(B) $x^2 - 16y^2$	(Ä) $x^2 - 4y^2$
14. $(2x + 3y) \cdot (2x - 3y) =$	(A) $x^2 - 25y^2$	(C) $4x^2 - 9y^2$	(Y) $y^2 - 9$
15. $(x - 5y) \cdot (x + 5y) =$	(H) $x^2 - 25y^2$	(R) $y^2 - 9$	(Z) $x^2 - 4y^2$

**Lösungswort:**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Aufgabenstellung: Löse die binomischen Formeln!

$(3a + 4) \cdot (3a - 4) =$	$(2a + 3b) \cdot (2a - 3b) =$
$(3a + 1) \cdot (3a - 1) =$	$(4a + 5b) \cdot (4a - 5b) =$
$(8a + 2) \cdot (8a - 2) =$	$(2a + 5b) \cdot (2a - 5b) =$
$(4a + 1) \cdot (4a - 1) =$	$(5a + 5b) \cdot (5a - 5b) =$
$(10a + 4b) \cdot (10a - 4b) =$	$(10a + 1) \cdot (10a - 1) =$
$(3a + 4b) \cdot (3a - 4b) =$	$(8a + 1) \cdot (8a - 1) =$

Lösungen:

$100a^2 - 16b^2 / 100a^2 - 1 / 16a^2 - 1 / 16a^2 - 25b^2 / 25a^2 - 25b^2 / 4a^2 - 9b^2 / 4a^2 - 25b^2 / 64a^2 - 4 / 64a^2 - 1 / 9a^2 - 16 / 9a^2 - 1 / 9a^2 - 16b^2$

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x^2 - y^2)^2 =$	(T) $x^4 - 2x^2y^2 + y^4$	(O) $x^4 - 2x^2y + y^4$	(F) $x - 2x^2y^2 + y^2$
2. $(3x^2 - 4y^2)^2 =$	(B) $9x^4 - 24xy^2 + 16y^4$	(I) $9x^4 - 24x^2y^2 + 16y^4$	(Z) $9x^4 - 24x^2y + 16y^2$
3. $(3x^2 - 2y^2)^2 =$	(S) $9x^4 - 12xy^2 + 4y^2$	(T) $9x^4 - 12x^2y^2 + 4y^4$	(A) $9x^3 - 12x^2y^2 + 4y^2$
4. $(3x^2 - y^2)^2 =$	(E) $9x^4 - 6x^2y^2 + y^4$	(B) $9x^4 - 12x^2y^2 + 4y^2$	(P) $9x^4 - 12xy^2 + 4y^2$
5. $(x^2 - x)^2 =$	(W) $x^2 - 2x^3 + x^2$	(L) $x^4 - 2x^3 + x^2$	(U) $x^4 - x^3 + x^2$
6. $(2x^2 - x)^2 =$	(V) $4x^4 - 4x^3 + x^2$	(N) $4x^4 - 4x^2 + x^2$	(B) $4x^4 - 2x^3 + x^2$
7. $(2x^2 - 3x)^2 =$	(T) $4x^4 - 6x^3 + 9x^2$	(B) $4x^4 - 12x + 9x^2$	(E) $4x^4 - 12x^3 + 9x^2$
8. $(4x^2 - 3x)^2 =$	(F) $16x^2 - 24x^3 + 9x^2$	(R) $16x^4 - 24x^3 + 9x^2$	(P) $16x^4 - 24x + 9x^2$
9. $(x^3 - y)^2 =$	(B) $x^6 - 2x^2y + y^2$	(T) $x^6 - 2x^3y + y^2$	(R) $x^6 + 2x^2y + y^2$
10. $(2x^3 - y)^2 =$	(E) $4x^6 - 4x^3y + y^2$	(M) $4x^6 - 4x^3y + y$	(W) $4x^6 - 4x^3y + y^3$
11. $(x^3 - 3y)^2 =$	(V) $x^6 - 6x^3y + 3y^2$	(B) $x^2 - 6x^3y + 9y^2$	(I) $x^6 - 6x^3y + 9y^2$
12. $(2x^3 - 3y)^2 =$	(A) $4x^6 - 12x^2y + 9y^2$	(D) $4x^6 - 12x^3y + 9y^2$	(Y) $4x^2 + 12x^2y + 9y^2$
13. $(x^3 - x^2)^2 =$	(I) $x^6 - 2x^5 + x^4$	(R) $x^6 - 2x^2 + x^4$	(Z) $x^6 - 2x^5 + x^3$
14. $(3x^3 - x^2)^2 =$	(H) $9x^6 - 6x^3 + x^4$	(V) $9x^3 - 6x^5 + x^4$	(G) $9x^6 - 6x^5 + x^4$
15. $(2x^3 - 4x^2)^2 =$	(E) $4x^6 - 16x^5 + 16x^4$	(P) $4x^2 - 16x^5 + 16x^4$	(C) $4x^6 - 16x^{35} + 16x^4$
16. $(5x^3 - 2x^2)^2 =$	(S) $25x^6 - 20x^5 + 4x^2$	(R) $25x^6 - 20x^5 + 4x^4$	(M) $25x^6 - 10x^5 + 4x^4$

**Lösungswort:**

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Aufgabenstellung: Löse die binomischen Formeln!

$$(a^2 - a)^2 =$$

$$(a^3 - 3b)^2 =$$

$$(2a^2 - a)^2 =$$

$$(2a^3 - 3b)^2 =$$

$$(2a^2 - 3a)^2 =$$

$$(a^3 - a^2)^2 =$$

$$(4a^2 - 3a)^2 =$$

$$(3a^3 - a^2)^2 =$$

$$(a^3 - b)^2 =$$

$$(2a^3 - 4a^2)^2 =$$

$$(2a^3 - b)^2 =$$

$$(5a^3 - 2a^2)^2 =$$

Lösungen:  $16a^4 - 24a^3 + 9a^2$  /  $25a^6 - 20a^5 + 4a^4$  /  $4a^4 - 4a^3 + a^2$  /  $4a^4 - 12a^3 + 9a^2$  /  $4a^6 - 4a^3b + b^2$  /  $4a^6 - 12a^3b + 9b^2$  /  $4a^6 - 16a^5 + 16a^4$  /  $9a^6 - 6a^5 + a^4$  /  $a^4 - 2a^3 + a^2$  /  $a^6 - 2a^3b + b^2$  /  $a^6 - 6a^3b + 9b^2$  /  $a^6 - 2a^5 + a^4$

# LÖSUNGEN

## Binomische Formeln

*Aufgabenstellung: Löse die binomischen Formeln!*

1. $(x + y)^2 =$	<b>(K)</b> <u><math>x^2 + 2xy + y^2</math></u>	(M) $x^2 + 4x + 4$	(F) $x^2 + 8x + 16$
2. $(x + 2)^2 =$	(X) $x^2 + 8x + 16$	(G) $x^2 + 6x + 9$	<b>(R)</b> <u><math>x^2 + 4x + 4</math></u>
3. $(x + 4)^2 =$	<b>(E)</b> <u><math>x^2 + 8x + 16</math></u>	(O) $x^2 + 6x + 9$	(F) $x^2 + 2xy + y^2$
4. $(x + 3)^2 =$	(B) $x^2 + 2xy + y^2$	<b>(U)</b> <u><math>x^2 + 6x + 9</math></u>	(Z) $x^2 + 4x + 4$
5. $(y + 2)^2 =$	(S) $y^2 + 12y + 36$	<b>(Z)</b> <u><math>y^2 + 4y + 4</math></u>	(A) $x^2 + 6x + 9$
6. $(y + 6)^2 =$	<b>(F)</b> <u><math>y^2 + 12y + 36</math></u>	(B) $x^2 + 6x + 9$	(P) $4x^2 + 12xy + 9y^2$
7. $(x + 3)^2 =$	(W) $4x^2 + 12xy + 9y^2$	<b>(A)</b> <u><math>x^2 + 6x + 9</math></u>	(U) $y^2 + 4y + 4$
8. $(2x + 3y)^2 =$	<b>(H)</b> <u><math>4x^2 + 12xy + 9y^2</math></u>	(G) $4y^2 + 4y + 9$	(B) $y^2 + 12y + 36$
9. $(3x + y)^2 =$	(T) $4x^2 + 4xy + y^2$	(B) $4x^2 + 12x + 9$	<b>(R)</b> <u><math>9x^2 + 6xy + y^2</math></u>
10. $(2x + y)^2 =$	(F) $4x^2 + 12x + 9$	<b>(I)</b> <u><math>4x^2 + 4xy + y^2</math></u>	(P) $x^2 + 6x + 9$
11. $(2x + 3)^2 =$	(B) $x^2 + 6x + 9$	<b>(S)</b> <u><math>4x^2 + 12x + 9</math></u>	(R) $9x^2 + 6xy + y^2$
12. $(x + 3)^2 =$	<b>(C)</b> <u><math>x^2 + 6x + 9</math></u>	(M) $9x^2 + 6xy + y^2$	(W) $4x^2 + 4xy + y^2$
13. $(2x + 3y)^2 =$	(V) $9x^2 + 6xy + y^2$	(B) $4x^2 + 4xy + y^2$	<b>(H)</b> <u><math>4x^2 + 12xy + 9y^2</math></u>
14. $(3x + y)^2 =$	(A) $4x^2 + 4xy + y^2$	<b>(I)</b> <u><math>9x^2 + 6xy + y^2</math></u>	(Y) $4x^2 + 12x + 9$
15. $(2x + y)^2 =$	<b>(F)</b> <u><math>4x^2 + 4xy + y^2</math></u>	(R) $4x^2 + 12x + 9$	(Z) $4x^2 + 12xy + 9y^2$
16. $(2x + 3)^2 =$	(H) $4x^2 + 12xy + 9y^2$	(V) $9x^2 + 6xy + y^2$	<b>(F)</b> <u><math>4x^2 + 12x + 9</math></u>

**Lösungswort:**    **K**   **R**   **E**   **U**   **Z**   **F**   **A**   **H**   **R**   **T**   **S**   **C**   **H**   **I**   **F**   **F**  
                           1    2    3    4    5    6    7    8    9    10   11   12   13   14   15   16

*Aufgabenstellung: Löse die binomischen Formeln!*

$$(3c + 4d)^2 = 9c^2 + 24cd + 16d^2$$

$$(3u + 3v)^2 = 9u^2 + 12uv + 9v^2$$

$$(4s + 1)^2 = 16s^2 + 8s + 1$$

$$(3c + d)^2 = 9c^2 + 6cd + d^2$$

$$(x + 2y)^2 = x^2 + 4xy + 4y^2$$

$$(2x + 5y)^2 = 4x^2 + 20xy + 25y^2$$

$$(g + 3h)^2 = g^2 + 6gh + 9h^2$$

$$(4x + 5y)^2 = 16x^2 + 40xy + 25y^2$$

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x - y)^2 =$	(X) $x^2 - 6x + 9$	(G) $x^2 - 4x + 4$	<b>(T) <math>x^2 - 2xy + y^2</math></b>
2. $(x - 3)^2 =$	<b>(A) <math>x^2 - 6x + 9</math></b>	(O) $x^2 - 4x + 4$	(F) $y^2 - 10y + 25$
3. $(x - 2)^2 =$	(B) $y^2 - 10y + 25$	<b>(N) <math>x^2 - 4x + 4</math></b>	(Z) $x^2 - 2xy + y^2$
4. $(y - 5)^2 =$	(S) $x^2 - 2xy + y^2$	<b>(Z) <math>y^2 - 10y + 25</math></b>	(A) $y^2 - 6y + 25$
5. $(y - 1)^2 =$	<b>(V) <math>y^2 - 2y + 1</math></b>	(B) $x^2 - 10x + 25$	(P) $4x^2 - 4xy + y^2$
6. $(x - 5)^2 =$	(W) $4x^2 - 4xy + y^2$	<b>(E) <math>x^2 - 10x + 25</math></b>	(U) $9x^2 - 6xy + y^2$
7. $(2x - y)^2 =$	<b>(R) <math>4x^2 - 4xy + y^2</math></b>	(G) $9x^2 - 6xy + y^2$	(B) $4x^2 - 4y + y^2$
8. $(3x - y)^2 =$	(T) $y^2 - 2y + 1$	(B) $x^2 - 10x + 25$	<b>(A) <math>9x^2 - 6xy + y^2</math></b>
9. $(4x - y)^2 =$	(F) $x^2 - 8xy + 16y^2$	<b>(N) <math>16x^2 - 8xy + y^2</math></b>	(P) $4x^2 - 12x + 9$
10. $(x - 4y)^2 =$	(B) $x^2 - 4xy + 16y^2$	<b>(S) <math>x^2 - 8xy + 16y^2</math></b>	(R) $16x^2 - 32xy + 16y^2$
11. $(2x - 3)^2 =$	<b>(I) <math>4x^2 - 12x + 9</math></b>	(M) $4x^2 - 32xy + 9y^2$	(W) $16x^2 - 8xy + y^2$
12. $(4x - 4y)^2 =$	(V) $16x^2 - 8xy + y^2$	(B) $16x^2 - 8xy + 16y^2$	<b>(A) <math>16x^2 - 32xy + 16y^2</math></b>
13. $(2x - y)^2 =$	(A) $4x^2 - 6xy + y^2$	<b>(L) <math>4x^2 - 4xy + y^2</math></b>	(Y) $4x^2 - 8xy + y^2$
14. $(3x - y)^2 =$	<b>(I) <math>9x^2 - 6xy + y^2</math></b>	(R) $9^2 - 8xy + y^2$	(Z) $9x^2 - 8xy + 16y^2$
15. $(4x - y)^2 =$	(H) $x^2 - 8xy + 16y^2$	(V) $4x^2 - 4xy + y^2$	<b>(U) <math>16x^2 - 8xy + y^2</math></b>
16. $(x - 4y)^2 =$	<b>(N) <math>x^2 - 8xy + 16y^2</math></b>	(P) $x^2 - 4xy + 16y^2$	(C) $9x^2 - 6xy + y^2$
17. $(2x - 3)^2 =$	(S) $16x^2 - 32xy + 16y^2$	<b>(G) <math>4x^2 - 12x + 9</math></b>	(M) $x^2 - y^2$

**Lösungswort:**    **T**   **A**   **N**   **Z**   **V**   **E**   **R**   **A**   **N**   **S**   **T**   **A**   **L**   **T**   **U**   **N**   **G**  
                           1    2    3    4    5    6    7    8    9    10   11   12   13   14   15   16   17

Aufgabenstellung: Löse die binomischen Formeln!

$$(3a - 4)^2 = 9a^2 - 24ab + 16b^2$$

$$(9a - 4b)^2 = 81a^2 - 72ab + 16b^2$$

$$(3a - 6)^2 = 9a^2 - 36a + 36$$

$$(3a - 4b)^2 = 9a^2 - 24a + 16$$

$$(8a - 2)^2 = 64a^2 - 32a + 4$$

$$(2a - 3b)^2 = 4a^2 - 12ab + 9b^2$$

$$(4a - 8)^2 = 16a^2 - 64a + 64$$

$$(4a - 5b)^2 = 16a^2 - 40ab + 25b^2$$

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x + y) \cdot (x - y) =$	<b>(T)</b> <u><math>x^2 - y^2</math></u>	(M) $x^2 - 1$	(F) $y^2 - 9$
2. $(x + 1) \cdot (x - 1) =$	(X) $y^2 - 9$	(G) $y^2 - 16$	<b>(E)</b> <u><math>x^2 - 1</math></u>
3. $(y + 3) \cdot (y - 3) =$	<b>(L)</b> <u><math>y^2 - 9</math></u>	(O) $y^2 - 16$	(F) $x^2 - y^2$
4. $(y - 4) \cdot (y + 4) =$	(B) $x^2 - y^2$	<b>(E)</b> <u><math>y^2 - 16</math></u>	(Z) $x^2 - 1$
5. $(y + 5) \cdot (y - 5) =$	(S) $y^2 - 5$	<b>(F)</b> <u><math>y^2 - 25</math></u>	(A) $x^2 - 4y^2$
6. $(y - 3) \cdot (y + 3) =$	<b>(O)</b> <u><math>y^2 - 9</math></u>	(B) $x^2 - 9y^2$	(P) $4x^2 - 9y^2$
7. $(x + 2y) \cdot (x - 2y) =$	(W) $4x^2 - y^2$	<b>(N)</b> <u><math>x^2 - 4y^2</math></u>	(U) $y^2 - 4$
8. $(2x + 3y) \cdot (2x - 3y) =$	<b>(G)</b> <u><math>4x^2 - 9y^2</math></u>	(N) $4y^2 - 25$	(B) $4y^2 - 9$
9. $(x - 5y) \cdot (x + 5y) =$	(T) $25x^2 - 25y^2$	(B) $9 - 4y^2$	<b>(E)</b> <u><math>x^2 - 25y^2</math></u>
10. $(5x - 5y) \cdot (5x + 5y) =$	(F) $5 - 25x^2$	<b>(S)</b> <u><math>25x^2 - 25y^2</math></u>	(P) $25x^2 - 5$
11. $(3 - 2y) \cdot (3 + 2y) =$	(B) $y^2 - 9$	<b>(P)</b> <u><math>9x - 4y^2</math></u>	(R) $x^2 - 25y^2$
12. $(y - 3) \cdot (y + 3) =$	<b>(R)</b> <u><math>y^2 - 9</math></u>	(M) $x^2 - 9y^2$	(W) $9x^2 - 9y^2$
13. $(x + 2y) \cdot (x - 2y) =$	(V) $4x^2 - 2y^2$	(B) $x^2 - 16y^2$	<b>(Ä)</b> <u><math>x^2 - 4y^2</math></u>
14. $(2x + 3y) \cdot (2x - 3y) =$	(A) $x^2 - 25y^2$	<b>(C)</b> <u><math>4x^2 - 9y^2</math></u>	(Y) $y^2 - 9$
15. $(x - 5y) \cdot (x + 5y) =$	<b>(H)</b> <u><math>x^2 - 25y^2</math></u>	(R) $y^2 - 9$	(Z) $x^2 - 4y^2$

Lösungswort:

**T E L E F O N G E S P R Ä C H**  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Aufgabenstellung: Löse die binomischen Formeln!

$(3a + 4) \cdot (3a - 4) = 9a^2 - 16$	$(2a + 3b) \cdot (2a - 3b) = 4a^2 - 9b^2$
$(3a + 1) \cdot (3a - 1) = 9a^2 - 1$	$(4a + 5b) \cdot (4a - 5b) = 16a^2 - 25b^2$
$(8a + 2) \cdot (8a - 2) = 64a^2 - 4$	$(2a + 5b) \cdot (2a - 5b) = 4a^2 - 25b^2$
$(4a + 1) \cdot (4a - 1) = 16a^2 - 1$	$(5a + 5b) \cdot (5a - 5b) = 25a^2 - 25b^2$
$(10a + 4b) \cdot (10a - 4b) = 100a^2 - 16b^2$	$(10a + 1) \cdot (10a - 1) = 100a^2 - 1$
$(3a + 4b) \cdot (3a - 4b) = 9a^2 - 16b^2$	$(8a + 1) \cdot (8a - 1) = 64a^2 - 1$

Aufgabenstellung: Löse die binomischen Formeln!

1. $(x^2 - y^2)^2 =$	<b>(I)</b> <u><math>x^4 - 2x^2y^2 + y^4</math></u>	(O) $x^4 - 2x^2y + y^4$	(F) $x - 2x^2y^2 + y^2$
2. $(3x^2 - 4y^2)^2 =$	(B) $9x^4 - 24xy^2 + 16y^4$	<b>(I)</b> <u><math>9x^4 - 24x^2y^2 + 16y^4</math></u>	(Z) $9x^4 - 24x^2y + 16y^2$
3. $(3x^2 - 2y^2)^2 =$	(S) $9x^4 - 12xy^2 + 4y^2$	<b>(T)</b> <u><math>9x^4 - 12x^2y^2 + 4y^4</math></u>	(A) $9x^3 - 12x^2y^2 + 4y^2$
4. $(3x^2 - y^2)^2 =$	<b>(E)</b> <u><math>9x^4 - 6x^2y^2 + y^4</math></u>	(B) $9x^4 - 12x^2y^2 + 4y^2$	(P) $9x^4 - 12xy^2 + 4y^2$
5. $(x^2 - x)^2 =$	(W) $x^2 - 2x^3 + x^2$	<b>(L)</b> <u><math>x^4 - 2x^3 + x^2</math></u>	(U) $x^4 - x^3 + x^2$
6. $(2x^2 - x)^2 =$	<b>(V)</b> <u><math>4x^4 - 4x^3 + x^2</math></u>	(N) $4x^4 - 4x^2 + x^2$	(B) $4x^4 - 2x^3 + x^2$
7. $(2x^2 - 3x)^2 =$	(T) $4x^4 - 6x^3 + 9x^2$	(B) $4x^4 - 12x + 9x^2$	<b>(E)</b> <u><math>4x^4 - 12x^3 + 9x^2</math></u>
8. $(4x^2 - 3x)^2 =$	(F) $16x^2 - 24x^3 + 9x^2$	<b>(R)</b> <u><math>16x^4 - 24x^3 + 9x^2</math></u>	(P) $16x^4 - 24x + 9x^2$
9. $(x^3 - y)^2 =$	(B) $x^6 - 2x^2y + y^2$	<b>(T)</b> <u><math>x^6 - 2x^3y + y^2</math></u>	(R) $x^6 + 2x^2y + y^2$
10. $(2x^3 - y)^2 =$	<b>(E)</b> <u><math>4x^6 - 4x^3y + y^2</math></u>	(M) $4x^6 - 4x^3y + y$	(W) $4x^6 - 4x^3y + y^3$
11. $(x^3 - 3y)^2 =$	(V) $x^6 - 6x^3y + 3y^2$	(B) $x^2 - 6x^3y + 9y^2$	<b>(I)</b> <u><math>x^6 - 6x^3y + 9y^2</math></u>
12. $(2x^3 - 3y)^2 =$	(A) $4x^6 - 12x^2y + 9y^2$	<b>(D)</b> <u><math>4x^6 - 12x^3y + 9y^2</math></u>	(Y) $4x^2 + 12x^2y + 9y^2$
13. $(x^3 - x^2)^2 =$	<b>(I)</b> <u><math>x^6 - 2x^5 + x^4</math></u>	(R) $x^6 - 2x^2 + x^4$	(Z) $x^6 - 2x^5 + x^3$
14. $(3x^3 - x^2)^2 =$	(H) $9x^6 - 6x^3 + x^4$	(V) $9x^3 - 6x^5 + x^4$	<b>(G)</b> <u><math>9x^6 - 6x^5 + x^4</math></u>
15. $(2x^3 - 4x^2)^2 =$	<b>(E)</b> <u><math>4x^6 - 16x^5 + 16x^4</math></u>	(P) $4x^2 - 16x^5 + 16x^4$	(C) $4x^6 - 16x^{35} + 16x^4$
16. $(5x^3 - 2x^2)^2 =$	(S) $25x^6 - 20x^5 + 4x^2$	<b>(R)</b> <u><math>25x^6 - 20x^5 + 4x^4</math></u>	(M) $25x^6 - 10x^5 + 4x^4$

Lösungswort:

**T I T E L V E R T E I D I G E R**  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Aufgabenstellung: Löse die binomischen Formeln!

$$(a^2 - a)^2 = a^4 - 2a^3 + a^2$$

$$(a^3 - 3b)^2 = a^6 - 6a^3b + 9b^2$$

$$(2a^2 - a)^2 = 4a^4 - 4a^3 + a^2$$

$$(2a^3 - 3b)^2 = 4a^6 - 12a^3b + 9b^2$$

$$(2a^2 - 3a)^2 = 4a^4 - 12a^3 + 9a^2$$

$$(a^3 - a^2)^2 = a^6 - 2a^5 + a^4$$

$$(4a^2 - 3a)^2 = 16a^4 - 24a^3 + 9a^2$$

$$(3a^3 - a^2)^2 = 9a^6 - 6a^5 + a^4$$

$$(a^3 - b)^2 = a^6 - 2a^3b + b^2$$

$$(2a^3 - 4a^2)^2 = 4a^6 - 16a^5 + 16a^4$$

$$(2a^3 - b)^2 = 4a^6 - 4a^3b + b^2$$

$$(5a^3 - 2a^2)^2 = 25a^6 - 20a^5 + 4a^4$$