

# Rechnen mit Potenzen

Erklärvideo



t1p.de/terme07

LearningSnack



t1p.de/terme08

Onlineübungen



erklaerung-und-mehr.org

*Aufgabenstellung: Berechne und finde die passende Lösung!*

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

**Lösungswort:**

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

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

**Lösungswort:**

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

1. $3a^2 + 3a + 5a^2 + a =$	(K) $8a^2 + 4a$	(M) $11a^2 + 12a$	(F) $7a^2 + 7a$
2. $4a^2 - 7a - 3a^2 + 5a =$	(X) $-7a^2 - 3a$	(G) $11a^2 + 12a$	(L) $a^2 - 2a$
3. $-2a^2 - 4a + 3a^2 + 6a =$	(E) $a^2 + 2a$	(O) $11a^2 + 12a$	(F) $7a^2 + 7a$
4. $-4a^2 - 7a - 3a^2 + 4a =$	(B) $11a^2 + 12a$	(T) $-7a^2 - 3a$	(Z) $12a^2 - 7a$
5. $4a^2 - 7a - 6a^2 + 6a =$	(S) $-7a^2 - 3a$	(T) $-2a^2 - a$	(G) $11a^2 + 12a$
6. $3a^2 + 5a - 4a^2 - 8a =$	(E) $-a^2 - 3a$	(B) $-7a^2 - 3a$	(P) $11a^2 + 12a$
7. $3a^2 + 2a + 4a^2 + 4 + 5a =$	(W) $8a^2 + 3a + 6$	(R) $7a^2 + 7a + 4$	(U) $11a^2 + 12a + 8$
8. $5a^2 + 2a + 6a^2 + 8 + a =$	(P) $11a^2 + 3a + 8$	(N) $8a^2 + 3a + 6$	(B) $-7a^2 - 3a + 8$
9. $3a^2 + 2a + 5a^2 + 6 + a =$	(T) $-7a^2 - 3a + 8$	(B) $a^2 - 2a + 5$	(F) $8a^2 + 3a + 6$
10. $6a^2 + 5a + 5a^2 + 8 + 7a =$	(F) $8a^2 + 3a + 6$	(L) $11a^2 + 12a + 8$	(P) $-7a^2 - 3a + 8$
11. $3a^2 + 3a + 5a^2 + 4 + a =$	(B) $-7a^2 - 3a + 8$	(A) $8a^2 + 4a + 4$	(R) $a^2 - 2a + 5$
12. $4a^2 - 7a - 3a^2 + 5 + 5a =$	(N) $a^2 - 2a + 5$	(M) $8a^2 + 3a + 6$	(W) $-7a^2 - 3a + 8$
13. $-2a^2 - 4a + 3a^2 + 2 + 6a =$	(V) $a^2 - 2a + 5$	(B) $8a^2 + 3a + 6$	(Z) $a^2 + 2a + 2$
14. $-4a^2 - 7a - 3a^2 + 8 + 4a =$	(A) $8a^2 + 3a + 6$	(E) $-7a^2 - 3a + 8$	(Y) $-2a^2 - a + 4$

**Lösungswort:**

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

Aufgabenstellung: Berechne! Achte auf die Potenzen!

$$6a^2 + 5a + 5a^2 + 8 + 7a = \underline{\hspace{2cm}} \quad 3x^2y^3 \cdot 3x^3y^5 = \underline{\hspace{2cm}}$$

$$16x^6y^6 : 4xy^5 = \underline{\hspace{2cm}} \quad 25x^5y^4 : 5x^2y^2 = \underline{\hspace{2cm}}$$

$$3a^2 + 2a + 5a^2 + 6 + a = \underline{\hspace{2cm}} \quad 3a^2 + 3a + 5a^2 + 4 + a = \underline{\hspace{2cm}}$$

$$4x^4y^7 : 2x^2y^2 = \underline{\hspace{2cm}} \quad 4x^5y \cdot 4x^4y = \underline{\hspace{2cm}}$$

$$2xy^5 \cdot 2x^4y^3 = \underline{\hspace{2cm}} \quad 5x^3y^2 \cdot 5xy^2 = \underline{\hspace{2cm}}$$

$$9x^6y^3 : 3x^5y = \underline{\hspace{2cm}} \quad 5a^2 + 2a + 6a^2 + 8 + a = \underline{\hspace{2cm}}$$

Lösungen:  $11a^2 + 12a + 8$  /  $11a^2 + 3a + 8$  /  $16x^9y^2$  /  $25x^4y^4$  /  $2x^2y^5$  /  $3xy^2$  /  $4x^5y$  /  $4x^5y^8$  /  $5x^3y^2$  /  $8a^2 + 3a + 6$  /  $8a^2 + 4a + 4$  /  $9x^5y^8$

# LÖSUNGEN

## Rechnen mit Potenzen

Aufgabenstellung: Berechne und finde die passende Lösung!

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

Lösungswort: **S O N N E N T E R R A S S E**  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14

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

Lösungswort: **L A N D W I R T S C H A F T**  
 1 2 3 4 5 6 7 8 9 10 11 12 13 14

1. $3a^2 + 3a + 5a^2 + a =$	<b>(K)</b> <u><math>8a^2 + 4a</math></u>	(M) $11a^2 + 12a$	(F) $7a^2 + 7a$
2. $4a^2 - 7a - 3a^2 + 5a =$	(X) $-7a^2 - 3a$	(G) $11a^2 + 12a$	<b>(L)</b> <u><math>a^2 - 2a</math></u>
3. $-2a^2 - 4a + 3a^2 + 6a =$	<b>(E)</b> <u><math>a^2 + 2a</math></u>	(O) $11a^2 + 12a$	(F) $7a^2 + 7a$
4. $-4a^2 - 7a - 3a^2 + 4a =$	(B) $11a^2 + 12a$	<b>(I)</b> <u><math>-7a^2 - 3a</math></u>	(Z) $12a^2 - 7a$
5. $4a^2 - 7a - 6a^2 + 6a =$	(S) $-7a^2 - 3a$	<b>(I)</b> <u><math>-2a^2 - a</math></u>	(G) $11a^2 + 12a$
6. $3a^2 + 5a - 4a^2 - 8a =$	<b>(E)</b> <u><math>-a^2 - 3a</math></u>	(B) $-7a^2 - 3a$	(P) $11a^2 + 12a$
7. $3a^2 + 2a + 4a^2 + 4 + 5a =$	(W) $8a^2 + 3a + 6$	<b>(R)</b> <u><math>7a^2 + 7a + 4</math></u>	(U) $11a^2 + 12a + 8$
8. $5a^2 + 2a + 6a^2 + 8 + a =$	<b>(P)</b> <u><math>11a^2 + 3a + 8</math></u>	(N) $8a^2 + 3a + 6$	(B) $-7a^2 - 3a + 8$
9. $3a^2 + 2a + 5a^2 + 6 + a =$	(T) $-7a^2 - 3a + 8$	(B) $a^2 - 2a + 5$	<b>(F)</b> <u><math>8a^2 + 3a + 6</math></u>
10. $6a^2 + 5a + 5a^2 + 8 + 7a =$	(F) $8a^2 + 3a + 6$	<b>(L)</b> <u><math>11a^2 + 12a + 8</math></u>	(P) $-7a^2 - 3a + 8$
11. $3a^2 + 3a + 5a^2 + 4 + a =$	(B) $-7a^2 - 3a + 8$	<b>(A)</b> <u><math>8a^2 + 4a + 4</math></u>	(R) $a^2 - 2a + 5$
12. $4a^2 - 7a - 3a^2 + 5 + 5a =$	<b>(N)</b> <u><math>a^2 - 2a + 5</math></u>	(M) $8a^2 + 3a + 6$	(W) $-7a^2 - 3a + 8$
13. $-2a^2 - 4a + 3a^2 + 2 + 6a =$	(V) $a^2 - 2a + 5$	(B) $8a^2 + 3a + 6$	<b>(Z)</b> <u><math>a^2 + 2a + 2</math></u>
14. $-4a^2 - 7a - 3a^2 + 8 + 4a =$	(A) $8a^2 + 3a + 6$	<b>(E)</b> <u><math>-7a^2 - 3a + 8</math></u>	(Y) $-2a^2 - a + 4$

**Lösungswort:**    **K**   **L**   **E**   **T**   **T**   **E**   **R**   **P**   **F**   **L**   **A**   **N**   **Z**   **E**  
                           1    2    3    4    5    6    7    8    9    10   11   12   13   14

Aufgabenstellung: Berechne! Achte auf die Potenzen!

$6a^2 + 5a + 5a^2 + 8 + 7a =$	<u><math>11a^2 + 12a + 8</math></u>	$3x^2y^3 \cdot 3x^3y^5 =$	<u><math>9x^5y^8</math></u>
$16x^6y^6 : 4xy^5 =$	<u><math>4x^5y</math></u>	$25x^5y^4 : 5x^2y^2 =$	<u><math>5x^3y^2</math></u>
$3a^2 + 2a + 5a^2 + 6 + a =$	<u><math>8a^2 + 3a + 6</math></u>	$3a^2 + 3a + 5a^2 + 4 + a =$	<u><math>8a^2 + 4a + 4</math></u>
$4x^4y^7 : 2x^2y^2 =$	<u><math>2x^2y^5</math></u>	$4x^5y \cdot 4x^4y =$	<u><math>16x^9y^2</math></u>
$2xy^5 \cdot 2x^4y^3 =$	<u><math>4x^5y^8</math></u>	$5x^3y^2 \cdot 5xy^2 =$	<u><math>25x^4y^4</math></u>
$9x^6y^3 : 3x^5y =$	<u><math>3xy^2</math></u>	$5a^2 + 2a + 6a^2 + 8 + a =$	<u><math>11a^2 + 3a + 8</math></u>

Lösungen:  $11a^2 + 12a + 8 / 11a^2 + 3a + 8 / 16x^5y^2 / 25x^4y^4 / 2x^2y^5 / 3xy^2 / 4x^5y / 4x^5y^8 / 5x^3y^2 / 8a^2 + 3a + 6 / 8a^2 + 4a + 4 / 9x^5y^8$