

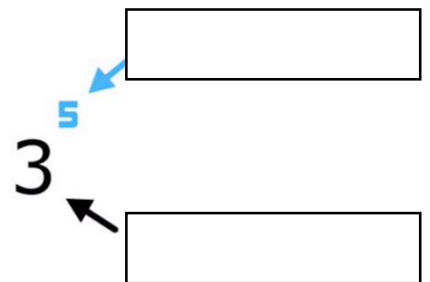
Ma	Potenzen	OSZ  IMT	
Name:	Datum:	Klasse:	Blatt Nr.: 1 / 4 Lfd. Nr.:

Potenzen

$$\underset{1}{3} * \underset{2}{3} * \underset{3}{3} * \underset{4}{3} * \underset{5}{3} = 3^{\text{Anzahl}} = 3^5 \quad \leftarrow \text{„3 hoch 5“}$$

Potenz ist eine

$$3 * 3 * 3 * \overset{4}{3} * \overset{5}{3}$$



Potenz

potentia (lat.) =

$$\begin{array}{l}
 \leftarrow \text{Exponent} \rightarrow \\
 10 \\
 9 \\
 \leftarrow \text{Basis} \rightarrow
 \end{array}
 = 9 * 9 * 9 * 9 * 9 * 9 * 9 * 9 * 9 * 9$$

$$= 3486784401$$



Ma	Potenzen		
Name:	Datum:	Klasse:	Blatt Nr.: 2 / 4 Lfd. Nr.:

Potenzgesetze gelten für:

→ ~~Addition~~

→

→

→

Potenzgesetze

$$3^5 * 3^2 = \underbrace{3*3*3*3*3}_5 * \underbrace{3*3}_2 = 3^7$$

$$3^5 * 3^2 = 3^{\boxed{}} = 3^{\boxed{}}$$

$$x^a * x^b = x^{\boxed{}}$$

gleiche Basis!



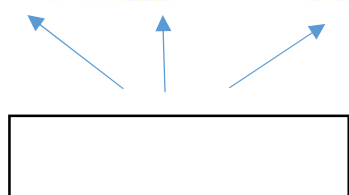
Ma	Potenzen	OSZ  IMT	
Name:	Datum:	Klasse:	Blatt Nr.: 3 / 4 Lfd. Nr.:

$$3^5 : 3^2 = \frac{3^5}{3^2} = \frac{3 \cdot 3 \cdot 3 \cdot \cancel{3} \cdot \cancel{3}}{\cancel{3} \cdot \cancel{3}} = \boxed{}$$

$$3^5 : 3^2 = 3^3$$

$$3^5 : 3^2 = 3^{5-2} = 3^3$$

$$x^5 : x^2 = x^{5-2}$$



$$x^a : x^b = x^{\boxed{}}$$

$$\begin{aligned} (3^2)^3 &= (3^2) * (3^2) * (3^2) \\ &= 3^2 * 3^2 * 3^2 \\ &= 3 * 3 * 3 * 3 * 3 * 3 \\ &= 3^6 \end{aligned}$$

$$(3^2)^3 = 3^{2*3} = 3^6$$

$$(x^a)^b = x^{a*b}$$



Ma	Potenzen		
Name:	Datum:	Klasse:	Blatt Nr.: 4 / 4 Lfd. Nr.:

$$\begin{aligned}
 2^3 * 3^3 &= \boxed{} * \boxed{} \\
 &= (2*3)*(2*3)*(2*3) \\
 &= \boxed{}
 \end{aligned}$$

$$2^3 * 3^3 = (2*3)^3$$

$$x^a * y^a = (x*y)^a$$

