



## Exponents - Power Law - Exponent Base with Variable Power to Unknown

### Exponent Base with Known Power

**1** Solve for the missing exponent (?)

$$(10^3)^8 = (10^?)^6$$

A	B	C	D	E	F
? = 3	? = 7	? = 4	? = 2	? = 10	? = 11

**2** Solve for the missing exponent (?)

$$(10^4)^6 = (10^?)^8$$

A	B	C	D	E	F
? = 7	? = 8	? = 2	? = 9	? = 5	? = 3

**3** Solve for the missing exponent (?)

$$(10^2)^8 = (10^?)^4$$

A	B	C	D	E	F
? = 4	? = 3	? = 8	? = 6	? = 7	? = 5

**4** Solve for the missing exponent (?)

$$(10^3)^{12} = (10^?)^9$$

A	B	C	D	E	F
? = 9	? = 7	? = 6	? = 5	? = 8	? = 4

**5** Solve for the missing exponent (?)

$$(10^4)^9 = (10^?)^{12}$$

A	B	C	D	E	F
? = 12	? = 4	? = 2	? = 8	? = 3	? = 7

**6** Solve for the missing exponent (?)

$$(10^3)^6 = (10^?)^9$$

A	B	C	D	E	F
? = 5	? = 7	? = 6	? = 1	? = 2	? = 9

**7** Solve for the missing exponent (?)

$$(10^4)^4 = (10^?)^8$$

A	B	C	D	E	F
? = 10	? = 4	? = 2	? = 7	? = 11	? = 5

**8** Solve for the missing exponent (?)

$$(10^3)^4 = (10^?)^6$$

A	B	C	D	E	F
? = 3	? = 6	? = 2	? = 8	? = 1	? = 5