

Calculating with Standard Form

1

Work out $(2 \times 10^2) \times (3 \times 10^1)$.

the keys, in order

$2 \times 10^2 \times 3 \times 10^1 =$

the display shows

6000

$$\begin{aligned} 6000 &= 600 \times 10 \\ &= 60 \times 10 \times 10 \\ &= 6 \times 10 \times 10 \times 10 \\ &= 6 \times 10^3 \end{aligned}$$

2

Work out $(4 \times 10^1) \times (2 \times 10^1)$.

the keys, in order

$4 \times 10^1 \times 2 \times 10^1 =$

the display shows

800

$$\begin{aligned} 800 &= 80 \times 10 \\ &= 8 \times 10 \times 10 \\ &= 8 \times 10^2 \end{aligned}$$

3

Work out $(3 \times 10^1) \times (3 \times 10^2)$.

the keys, in order

$3 \times 10^1 \times 3 \times 10^2 =$

the display shows

9000

$$\begin{aligned} 9000 &= 900 \times 10 \\ &= 90 \times 10 \times 10 \\ &= 9 \times 10 \times 10 \times 10 \\ &= 9 \times 10^3 \end{aligned}$$

4

Work out $(2 \times 10^1) \times (2 \times 10^1)$.

the keys, in order

$2 \times 10^1 \times 2 \times 10^1 =$

the display shows

400

$$\begin{aligned} 400 &= 40 \times 10 \\ &= 4 \times 10 \times 10 \\ &= 4 \times 10^2 \end{aligned}$$

5

Work out $(1 \times 10^2) \times (5 \times 10^1)$.

the keys, in order

$1 \times 10^2 \times 5 \times 10^1 =$

the display shows

5000

$$\begin{aligned} 5000 &= 500 \times 10 \\ &= 50 \times 10 \times 10 \\ &= 5 \times 10 \times 10 \times 10 \\ &= 5 \times 10^3 \end{aligned}$$

6

Work out $(7 \times 10^1) \times (1 \times 10^1)$.

the keys, in order

$7 \times 10^1 \times 1 \times 10^1 =$

the display shows

700

$$\begin{aligned} 700 &= 70 \times 10 \\ &= 7 \times 10 \times 10 \\ &= 7 \times 10^2 \end{aligned}$$

7

A machine makes 3×10^2 bolts an hour. How many bolts does it make in 2×10^1 hours?

the keys, in order

$3 \times 10^2 \times 2 \times 10^1 =$

the display shows

6000

$$\begin{aligned} 6000 &= 600 \times 10 \\ &= 60 \times 10 \times 10 \\ &= 6 \times 10 \times 10 \times 10 \\ &= 6 \times 10^3 \end{aligned}$$

8

Ravi types these keys. Write his answer in standard form.

the keys, in order

$4 \times 10^3 \times 2 \times 2 \times 10^3 =$

the display shows

8000

$$\begin{aligned} 8000 &= 800 \times 10 \\ &= 80 \times 10 \times 10 \\ &= 8 \times 10 \times 10 \times 10 \\ &= 8 \times 10^3 \end{aligned}$$

Calculating with Standard Form *further practice*

ANSWERS 

9



Work out $(3 \times 10^1) \times (2 \times 10^1)$.

the keys, in order

$3 \times 10^1 1 \times 2 \times 10^1 1 =$

the display shows 600

$$\begin{aligned} 600 &= 60 \times 10 \\ &= 6 \times 10 \times 10 \\ &= 6 \times 10^2 \end{aligned}$$

10



Work out $(1 \times 10^1) \times (1 \times 10^1)$.

the keys, in order

$1 \times 10^1 1 \times 1 \times 10^1 1 =$

the display shows 100

$$\begin{aligned} 100 &= 10 \times 10 \\ &= 1 \times 10 \times 10 \\ &= 1 \times 10^2 \end{aligned}$$

11



Work out $(8 \times 10^3) \div (2 \times 10^1)$.

the keys, in order

$8 \times 10^3 3 \div 2 \times 10^1 1 =$

the display shows 400

$$\begin{aligned} 400 &= 40 \times 10 \\ &= 4 \times 10 \times 10 \\ &= 4 \times 10^2 \end{aligned}$$

12



A box holds 2×10^2 pins.

How many pins are in 4×10^1 boxes?

the keys, in order

$2 \times 10^2 2 \times 4 \times 10^1 1 =$

the display shows 8000

$$\begin{aligned} 8000 &= 800 \times 10 \\ &= 80 \times 10 \times 10 \\ &= 8 \times 10 \times 10 \times 10 \\ &= 8 \times 10^3 \end{aligned}$$

13



6×10^3 eggs are packed in boxes of 3×10^1 . How many boxes are filled?

Write the answer in standard form.

the display shows

200

$$200 = 2 \times 10 \times 10$$

Answer 2×10^2 boxes

14



Which calculation has the bigger answer?

A $(2 \times 10^2) \times (3 \times 10^1)$

B $(4 \times 10^1) \times (2 \times 10^1)$

A 6000

B 800

Answer A (6000)

15



Work out $(2 \times 10^3) \times (4 \times 10^1)$.

Write the answer in standard form.

the display shows

80 000

$$80\,000 = 8 \times 10 \times 10 \times 10 \times 10$$

Answer 8×10^4

16



Ella works out $(3 \times 10^2) \times (3 \times 10^1)$.

The display shows 9000.

She writes 9×10^4 because 9000 has 4 digits. Is Ella right? Explain.

$$9000 = 9 \times 10 \times 10 \times 10$$

Ella is wrong. 9000 has 3 tens.

so $9000 = 9 \times 10^3$