

Q Standard Form (Non-Calc)

(b) Write 0.000 003 06 in standard form.

..... [1]

8 Write in standard form.

(a) 3 706 000

..... [1]

(b) 0.001 010

..... [1]

8 Calculate 0.3^2 .
Give your answer in standard form.

..... [2]

10 (a) Write 0.006 54 in standard form.

..... [1]

(b) The number 1.467×10^{102} is written as an ordinary number.

Write down the number of zeros that follow the digit 7.

..... [1]

- 13** Calculate $0.04^2 + 0.03 \times 0.28$.
Give your answer in standard form.

..... [2]

- 7** (a) Write 0.003 08 in standard form.

..... [1]

- (b) Work out $(7 \times 10^6) \times (3 \times 10^{-8})$.

Give your answer in standard form.

..... [2]

- 9** (a) Write 0.007 09 in standard form.

..... [1]

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

Give your answer in standard form.

..... [2]

- 12 Simplify $(3 \times 10^{85}) \times (7 \times 10^{15})$.
Give your answer in standard form.

..... [2]

- 16 Calculate $(3 \times 10^{-3})^3$.
Give your answer in standard form.

..... [1]

7 $p = 5 \times 10^7$

Work out p^3 .
Give your answer in standard form.

..... [2]

11 $10 < ab < 100$

Simplify $(a \times 10^7) \times (b \times 10^8)$.
Give your answer in standard form.

..... [2]

8 $p = 2 \times 10^3$ $q = 8 \times 10^{-5}$

Work out the following, giving each answer in standard form.

(a) pq

..... [2]

(b) $\frac{p}{q}$

..... [2]

6 (a) Write 0.000 058 6 in standard form.

..... [1]

(b) $(2 \times 10^a) \div (8 \times 10^b) = k \times 10^n$ where $1 \leq k < 10$.

(i) Find the value of k .

$k =$ [1]

(ii) Write an expression for n in terms of a and b .

$n =$ [1]

12 Work out, giving your answer in standard form,

(a) $(7.1 \times 10^{-15}) \times (2 \times 10^3)$

..... [2]

(b) $(5.2 \times 10^7) + (5.2 \times 10^6)$.

..... [2]

- 9 Calculate $4.8 \times 10^6 + 3.7 \times 10^7$.
Give your answer in standard form.

..... [1]

- 6 $p = 5 \times 10^{-8}$ $q = 6.8 \times 10^{-7}$

Find, giving your answers in standard form,

(a) pq

..... [2]

(b) $p + q$.

..... [2]

- 8 Calculate the value of $(2.3 \times 10^{-3}) + (6.8 \times 10^{-4})$.
Give your answer in standard form.

..... [1]

- 6 (a) Work out $(1.5 \times 10^1) \times (7 \times 10^{-3})$.
Give your answer in standard form.

..... [2]

- (b) Work out $(6.5 \times 10^{-2}) + (7.8 \times 10^{-3})$.
Give your answer in standard form.

..... [2]

- 14 Work out $(3 \times 10^{199}) + (2 \times 10^{201})$.
Give your answer in standard form.

..... [2]

7 Work out the following, giving each answer in standard form.

(a) $(4.3 \times 10^4) \times (3 \times 10^{-4})$

..... [2]

(b) $(6 \times 10^{-2}) + (3 \times 10^{-3})$

..... [2]

10 $c = 4 \times 10^7$ $d = 5.8 \times 10^6$

Work out, giving your answers in standard form,

(a) c^2 ,

..... [2]

(b) $c - d$.

..... [2]

11 (a) Write 0.007 08 in standard form.

..... [1]

(b) Work out $(3.8 \times 10^{22}) + (3.8 \times 10^{23})$.
Give your answer in standard form.

..... [2]

13 Work out $2 \times 10^{100} - 2 \times 10^{98}$, giving your answer in standard form.

..... [2]

(d) Write 0.00701 in standard form.

..... [1]

(e) Simplify $1.5 \times 10^x + 1.5 \times 10^{x-1}$ giving your answer in standard form.

..... [2]

- 14** In this calculation, the three numbers are written in standard form.

$$(4 \times 10^p) \times (n \times 10^{p+2}) = 3.2 \times 10^t$$

n , p and t are integers.

- (a)** Find the value of n .

$n = \dots\dots\dots$ [1]

- (b)** Find t in terms of p .

$t = \dots\dots\dots$ [1]

- 20** Simplify $2.1 \times 10^p + 2.1 \times 10^{p-1}$.
Give your answer in standard form.

$\dots\dots\dots$ [2]