

1 Large numbers: into standard form

a) Write 70 400 in standard form.

$$70\,400 = 7040 \times 10^1$$

$$70\,400 = 704 \times 10^2$$

b) Write 26×10^4 in standard form.

$$70\,400 = 70.4 \times 10^3$$

$$70\,400 = 7.04 \times 10^4$$

$$70\,400 = 7.04 \times 10^4$$

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a) 7.04×10^4

b) $26 = 2.6 \times 10$

b) 2.6×10^5

2 Large numbers: ordinary numbers

a) Write 6.08×10^5 as an ordinary number.

b) A stadium has 6.2×10^4 seats. 48 000 people come to a match. How many seats are empty?

a) 608 000

b) $6.2 \times 10^4 = 62\,000$

b) $62\,000 - 48\,000 = 14\,000$

3 Comparing and ordering

a) Which is bigger, 8.5×10^6 or 1.2×10^7 ?

b) Write in order, smallest first:

$$3.9 \times 10^5, 4.1 \times 10^4, 3.7 \times 10^5, 9 \times 10^4$$

a) 1.2×10^7 ($12\,000\,000 > 8\,500\,000$)

b) $4.1 \times 10^4, 9 \times 10^4, 3.7 \times 10^5, 3.9 \times 10^5$

4 Small numbers: into standard form

a) Write 0.00036 in standard form.

$$0.00036 = 0.0036 \div 10^1$$

$$0.00036 = 0.036 \div 10^2$$

b) A grain of pollen is 0.000025 m wide.

$$0.00036 = 0.36 \div 10^3$$

$$0.00036 = 3.6 \div 10^4$$

Write this in standard form.

$$0.00036 = 3.6 \times 10^{-4}$$

-4

a) 3.6×10^{-4}

b) $2.5 \times 10^{-5} \text{ m}$

Standard form revision mat answers

Foundation A

5 Small numbers: ordinary numbers

a) Write 7.3×10^{-4} as an ordinary number.

b) Write in order, smallest first: 2×10^{-3} , 5×10^{-4} , 0.0011

a) 0.00073

b) 0.002, 0.0005, 0.0011

b) 5×10^{-4} , 0.0011, 2×10^{-3}

6 Multiplying in standard form

Give your answers in standard form.

a) Work out $(3 \times 10^4) \times (2 \times 10^5)$

b) Work out $(5 \times 10^3) \times (4 \times 10^6)$

	the numbers	the powers of 10
a)	$3 \times 2 = 6$	$10^4 \times 10^5 = 10^9$
b)	$5 \times 4 = 20$	$10^3 \times 10^6 = 10^9$

a) 6×10^9

b) $20 \times 10^9 = 2 \times 10^{10}$

7 Dividing in standard form

Give your answers in standard form.

a) Work out $(8 \times 10^9) \div (2 \times 10^3)$

b) Work out $(3 \times 10^8) \div (6 \times 10^2)$

a) $8 \div 2 = 4$, $9 - 3 = 6$: 4×10^6

b) $3 \div 6 = 0.5$, $8 - 2 = 6$

b) $0.5 \times 10^6 = 5 \times 10^5$

8 Standard form problems

a) Use your calculator to work out $(4.2 \times 10^6) \times (3.5 \times 10^{-2})$. Give your answer in standard form.

b) A grain of rice has a mass of 2.5×10^{-2} g. Work out the mass of 4×10^4 grains of rice, in grams.

a) 1.47×10^5

b) $2.5 \times 4 = 10$, $-2 + 4 = 2$

b) $10 \times 10^2 = 1000 \text{ g}$