

Standard Form

ANSWERS

Calculator | 30 minutes | Total marks: 21

Name _____ Class _____

1 Write each number in standard form.

(a) 62 000

Answer 6.2×10^4 (1) [1 mark]

(b) 0.00047

Answer 4.7×10^{-4} (1) [1 mark]

(c) 305 000 000

Answer 3.05×10^8 (1) [1 mark]

2 Write each of these as an ordinary number.

(a) 3.8×10^5

Answer 380 000 (1) [1 mark]

(b) 2.06×10^{-3}

Answer 0.00206 (1) [1 mark]

3 Tom says, " 45×10^3 is written in standard form."

Explain why Tom is wrong and write the number correctly in standard form.

45 is not between 1 and 10 (1)

4.5×10^4 (1)

[2 marks]

4 Write these numbers in order of size. Start with the smallest.

4.2×10^5 9×10^4 3.1×10^6

Answer 9×10^4 , 4.2×10^5 , 3.1×10^6 (1) [1 mark]

5

Work out each of these without a calculator.

Give each answer in standard form.

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

Answer 8×10^8 (1)(1) [2 marks]

(b) $\frac{9 \times 10^8}{3 \times 10^2}$

Answer 3×10^6 (1)(1) [2 marks]

(c) $(6 \times 10^4) \times (5 \times 10^3)$

30×10^7 (1)

Answer 3×10^8 (1) [2 marks]

6

Work out $4 \times 10^4 + 3 \times 10^3$

Give your answer in standard form.

$40\,000 + 3\,000 = 43\,000$ (1)

Answer 4.3×10^4 (1) [2 marks]

7

(a) Use your calculator to work out $(3.6 \times 10^7) \div (4.5 \times 10^{-2})$

Give your answer in standard form.

Answer 8×10^8 (1)(1) [2 marks]

(b) A calculator display shows 2.4×10^5

Write this as an ordinary number.

Answer $240\,000$ (1) [1 mark]

8

The distance from the Earth to the Sun is 1.5×10^8 km.

Light travels at 3×10^5 km per second.

Work out how many seconds light takes to travel from the Sun to the Earth.

$$(1.5 \times 10^8) \div (3 \times 10^5) \text{ (1)}$$

Answer 500 (1) seconds [2 marks]

Question	Topic	RAG
1	I can write numbers in standard form	
2	I can change standard form to ordinary numbers	
3	I know what standard form means	
4	I can order numbers in standard form	
5	I can multiply and divide in standard form without a calculator	
6	I can add numbers in standard form	
7	I can use standard form on a calculator	
8	I can solve a problem in standard form	