

1 (a) Work out $\frac{2 \times 10^{14}}{8 \times 10^9}$

Give your answer in standard form.

[2 marks]

$$\frac{2}{8} \times 10^{14-9}$$

$$= 0.25 \times 10^5 \quad (1)$$

$$= 2.5 \times 10^4 \quad (1)$$

Answer 2.5×10^4

1 (b) $6200.07 = 6.2 \times 10^c + 7 \times 10^d$

Work out the values of c and d .

[2 marks]

$$6.2 \times 1000 = 6200, \quad c = 3$$

$$7 \times 0.01 = 0.07, \quad d = -2$$

$c = 3 \quad (1)$ $d = -2 \quad (1)$

- 2 (a) Work out $2000 \times 70\,000$
Give your answer in standard form.

[2 marks]

$$2 \times 10^3 \times 7 \times 10^4 \quad (1)$$

$$= 2 \times 7 \times 10^{3+4}$$

$$= 14 \times 10^7$$

$$= 1.4 \times 10^8 \quad (1)$$

Answer 1.4×10^8

- 2 (b) Work out $\frac{1.8 \times 10^2}{3 \times 10^{-1}}$
Give your answer as an ordinary number.

[2 marks]

$$\frac{1.8}{3} \times 10^{2-(-1)} \quad (1)$$

$$= 0.6 \times 10^3$$

$$= 6 \times 10^2$$

$$= 600 \quad (1)$$

Answer 600

3

Circle the value of 10^6

$$1 \times 10^6 = 1\,000\,000$$

[1 mark]

one hundred

one thousand

one million

one billion



- 4 Work out $80\,000\,000 \div 200$
Give your answer in standard form.

[2 marks]

$$\frac{80\,000\,000}{200} = 400\,000$$

$$= 4 \times 10^5 \quad (2)$$

Answer 4×10^5

5 Complete this statement.

[1 mark]

$$10^8 = \underline{\quad 100 \quad 1 \quad} \text{ million}$$

$$\begin{aligned} 1 \times 10^8 &= 100\,000\,000 \\ &= 100 \text{ million} \end{aligned}$$

6 (a) Work out $\frac{6.09 \times 10^{14}}{4.2 \times 10^9}$

Give your answer in standard form.

[2 marks]

$$\frac{6.09}{4.2} \times 10^{14-9}$$

$$1.45 \times 10^5$$

Answer 1.45×10^5 (2)