GCSE HIGHER · REVISION MAT 3

Standard form

1 Write 8 200 000 in standard form.

2 Write 5×10^{-2} as a decimal.

3 Jo writes 0.0045 as 4.5×10^{3}.

Explain her error.

4 Work out, giving your answer in standard form.

$(2.5 \times 10^{4}) + (3.5 \times 10^{3})$

5 Show that

$(9 \times 10^{7}) \div (3 \times 10^{-2}) = 3 \times 10^{9}$

6 A red blood cell is 7×10^{-6} m wide.

About how many fit in a line 1 cm long?

7 Show that

$(4 \times 10^{-3})^{3} = 6.4 \times 10^{-8}$

8 $x = 2 \times 10^{a}$ and $y = 5 \times 10^{b}$

$xy = 10^{7}$ and $\frac{x}{y} = 4 \times 10^{3}$

Find a and b.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Standard form

1 8.2×10^6

2 0.05

3 The number is less than 1, so the power must be negative.

4.5×10^{-3}

4 $25\,000 + 3500 = 28\,500$

2.85×10^4

5 $3 \times 10^{7+2}$

$= 3 \times 10^9$

6 1 cm = 0.01 m

$0.01 \div (7 \times 10^{-6}) = 1428.6$

About 1400

7 64×10^{-9}

$= 6.4 \times 10^{-8}$

8 $xy = 10^{a+b+1} \Rightarrow a + b = 6$

$\frac{x}{y} = 0.4 \times 10^{a-b} \Rightarrow a - b = 4$

$a = 5, b = 1$

Mr&Mrs MATHS