1 (a) Write 4.5×10^5 as an ordinary number.

4.5 x
$$10^5$$
 Shift the decimal point 5 times to the right 450 000 (1)

(b) Write 0.007 in standard form. W

(c) Work out $4.2 \times 10^3 + 5.3 \times 10^2$ Give your answer in standard form.

ve your answer in standard form.

$$4.2 \times 10^{3} + 5.3 \times 10^{2}$$

$$= 42 \times 10^{3} + 5.3 \times 10^{3}$$

$$= 47.3 \times 10^{3}$$

$$= 4.73 \times 10^{3}$$
(2)

(Total for Question 1 is 4 marks)

2 (a) Write 1.6310^{-3} as an ordinary number.

divide by 1000 -> more decimal place 3 places to the left

0.00lls

(b) Write 438000 in standard form.

4. 38 × 10⁵

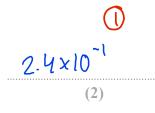
(c) Work out $(4 \times 10^3) \times (6 \times 10^{-5})$ Give your answer in standard form.

Method: multiply regular numbers, add powers of 10

=
$$4 \times 6 \times 10^{3} \times 10^{-5}$$

= $24 \times 10^{3-5}$ 1
= 24×10^{-2}
= 10×10^{-2}
= 10×10^{-1} | keeps value the same
= 2.4×10^{-1}

Note: in standard form the front number is between 1 and 10.



(Total for Question 2 is 4 marks)

3 (a) Write 6.75×10^{-4} as an ordinary number.

(b) Work out
$$\frac{2.56 \times 10^6 \times 4.12 \times 10^{-3}}{1.6 \times 10^{-2}}$$

Give your answer in standard form.

$$\frac{2.56 \times 4.12}{1.6} \times (10^{6-3-(-2)}) - \text{Separate the number parts}$$
to the power parts.

Do the operations separately.

(Total for Question 3 is 3 marks)

4 (a) Write (9×10^4) : (4.5×10^6) in the form 1:n where n is an integer.

$$(9 \times 10^{4}) : (4.5 \times 10^{6})$$

$$1 : \frac{4.5 \times 10^{6}}{9 \times 10^{4}}$$

$$1 : 0.5 \times 10^{2}$$

$$1 : 50$$
(2)

(b) Write the following numbers in order of size. Start with the smallest number.

$$5.625 \times 10^{4}$$
 5625 56250×10^{-3} $0.005.625 \times 10^{5}$ 56.25 56.25

(Total for Question 4 is 4 marks)