1 [2025-M/J-13-23]

(a) Write 1.23×10^{-4} as an ordinary number.

..... [1]

(b) $(8.2 \times 10^{4}) + (x \times 10^{y}) = 9.1 \times 10^{5}$

Find the value of x and the value of y.

$x =$ .....

$y =$ .....

[2]

2 [2024-M/J-14-12]

(a) Write 42 000 000 in standard form.

..... [1]

(b) Evaluate $\left(1.3 \times 10^{-4}\right) + \left(7.4 \times 10^{-3}\right)$.

Give your answer in standard form.

..... [2]

3 [2024-M/J-1d-21]

The table shows the salaries of three basketball players.

Basketball player	Salary ($)
Stephen	8.27×10^6
Joe	4.29×10^6
Tristan	3.64×10^7

(i) Find the difference between the salaries of Tristan and Stephen.

$ ..... [1]

4 [2023-M/J-17-11]

The mass of the planet Saturn is 5.7×10^{26} kg.
The mass of the planet Venus is 4.9×10^{24} kg.

Calculate the difference in mass between Saturn and Venus.
Give your answer in standard form.

..... kg [2]

(a) The table shows the population and area of three countries in 2019.

Country	Population	Area (km^2)
Sri Lanka	2.18×10^7	6.56×10^4
South Korea	5.17×10^7	1.00×10^5
Pakistan	2.17×10^8	8.82×10^5

(i) Write down the value of the smallest population.

..... [1]

(ii) Find the difference in area between Sri Lanka and Pakistan.
Give your answer in standard form.

..... km^2 [1]

(iii) The population density of a country is the number of people per square kilometre.

Find the value of the largest population density from these countries.

..... people/km^2 [2]

(b) In standard form, $A = 8.6 \times 10^n$ and $B = 1.5 \times 10^{n-1}$.

Giving your answer in standard form, find in terms of n

(i) $A - B$

..... [1]

(ii) $A \times B$.

..... [2]

6 [2022-M/J-14-11]

(a) Write 0.000 863 in standard form.

..... [1]

(b) The table below shows the approximate area of some deserts.

Desert	Area in km^2
Antarctica	1.4×10^7
Arabian	2.3×10^6
Gobi	1.3×10^6
Kalahari	9.0×10^5
Sahara	9.0×10^6

(i) Write down the name of the desert with the largest area.

..... [1]

(ii) Calculate the **total** area of the Arabian and Kalahari deserts.
Give your answer in standard form.

..... km^2 [2]

7 [2021-M/J-13-12]

(a) Write $0.000\,053$ in standard form.

..... [1]

(b) Evaluate $\left(1.5 \times 10^{14}\right) \times \left(8 \times 10^{6}\right)$.
Give your answer in standard form.

..... [2]

8 [2020-M/J-14-12]

(a) In 2017, the population of Egypt was $97\,500\,000$.

Write this population in standard form.

..... [1]