

Standard Form Past Paper Questions IGCSE Edexcel - Calculator

1.

(a) Write 8×10^4 as an ordinary number.

.....
(1)

(b) Work out $(3.5 \times 10^5) \div (7 \times 10^8)$
Give your answer in standard form.

.....
(2)

.....
(Total for Question 5 is 3 marks)

2.

The table shows the diameters, in kilometres, of five planets

Planet	Diameter (km)
Venus	1.2×10^4
Jupiter	1.4×10^5
Neptune	5.0×10^4
Mars	6.8×10^3
Saturn	1.2×10^5

(a) Write 1.4×10^5 as an ordinary number.

.....
(1)

(b) Which of these planets has the smallest diameter?

.....
(1)

(c) Calculate the difference, in kilometres, between the diameter of Saturn and the diameter of Neptune.
Give your answer in standard form.

..... km
(2)

The diameter of the Moon is 3.5×10^3 km.
The diameter of the Sun is 1.4×10^6 km.

(d) Calculate the ratio of the diameter of the Moon to the diameter of the Sun.
Give your ratio in the form 1 : n

.....
(2)

(Total for Question 2 is 6 marks)

3.

(a) Write 1 390 000 in standard form.

.....
(1)

(b) Write 0.005 in standard form.

.....
(1)

(Total for Question 3 is 2 marks)

4.

(a) Write 0.000451 in standard form.

.....
(1)

(b) Work out $\frac{7.8 \times 10^5}{2.4 \times 10^{-4}}$

Give your answer in standard form.

.....
(2)

(Total for Question 4 is 3 marks)

5.

The table shows some information about the five Great Lakes in North America.

Name	Surface area (m ²)	Volume of water (m ³)
Lake Erie	2.57×10^{10}	4.80×10^{11}
Lake Huron	6.01×10^{10}	3.52×10^{12}
Lake Michigan	5.80×10^{10}	4.87×10^{12}
Lake Ontario	1.91×10^{10}	1.64×10^{12}
Lake Superior	8.21×10^{10}	1.22×10^{13}

- (a) Work out the total surface area of the five Great Lakes.
Give your answer in standard form.

(2) m²

Loch Ness is the largest lake in Scotland.
The lake has a volume of water of 7.45×10^9 m³

The volume of water in Lake Superior is k times the volume of water in Loch Ness.

- (b) Work out the value of k .
Give your answer correct to 3 significant figures.

$k =$ (2)

(Total for Question 5 is 4 marks)

6.

The table shows information about the oil production, in barrels per day, of five countries during one year.

Country	Oil production (barrels per day)
India	8.97×10^5
Brazil	2.63×10^6
United States	8.4×10^6
Russia	1.09×10^7
Saudi Arabia	9.9×10^6

(a) Which country had the highest oil production?

.....
(1)

(b) Calculate the difference between the oil production of Brazil and the oil production of India. Give your answer in standard form.

..... barrels per day
(2)

During the same year, the oil production of California was 6.3×10^5 barrels per day.

(c) Work out the oil production of California as a proportion of the oil production of the United States.

.....
(2)

(Total for Question 6 is 5 marks)

7.

(a) Write as an ordinary number

(i) 4.2×10^6

(ii) 3.82×10^{-4}

.....

 (2)

(b) Here are three numbers written in standard form.
 Arrange these numbers in order of size.
 Start with the smallest number.

5.6×10^{-7}

8.6×10^{-9}

5.64×10^{-8}

.....
 (2)

(Total for Question 7 is 4 marks)

8.

$x = a \times 10^n$ where n is an integer and $\sqrt{10} \leq a < 10$

Find, in standard form, an expression for x^2 .
 Give your expression as simply as possible.

.....
 (Total for Question 8 is 3 marks)

9.

$$N = 480 \times 10^9$$

(a) Write N as a number in standard form.

(1)

(b) Write N as a product of powers of its prime factors.
Show your working clearly.

(3)

(c) Find the largest factor of N that is an odd number.

(1)

(Total for Question 9 is 5 marks)

10.

The number of people living in Tokyo is 3.57×10^7

- (a) Write 3.57×10^7 as an ordinary number.

.....
(1)

The land area of Tokyo is 1.35×10^4 square kilometres.

- (b) Work out the mean number of people per square kilometre living in Tokyo.
Give your answer in standard form, correct to 2 significant figures.

.....
(2)

(Total for Question 10 is 3 marks)

11.

- (a) Write 7.9×10^{-4} as an ordinary number.

.....
(1)

- (b) Work out $(6.5 \times 10^5) \times (3.1 \times 10^4)$
Give your answer in standard form.

.....
(2)

(Total for Question 11 is 3 marks)
