1.11
Standard Form

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June 2018 1F

18 (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)

June 2018 1FR

23 (a) Write 1 390 000 in standard form.

.....

(1)

(b) Write 0.005 in standard form.

.....

(1)

January 2019 1F

18 The table shows the volumes, in km^3, of four oceans.

Ocean	Volume (km^3)
Arctic Ocean	1.88×10^7
Atlantic Ocean	3.10×10^8
Indian Ocean	2.64×10^8
Southern Ocean	7.18×10^7

(a) Write 7.18×10^7 as an ordinary number.

(1)

(b) Calculate the total volume of these four oceans.

km^3

(2)

The volume of the South China Sea is $9\,880\,000\,km^3$

(c) Write 9 880 000 in standard form.

(1)

January 2019 1FR

24 $N = 480 \times 10^9$

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

(1)

June 2019 1F

21 (a) Write 5.7×10^6 as an ordinary number.

.....

(1)

(b) Write 0.004 in standard form.

.....

(1)

(c) Work out $\dfrac{2 \times 10^4 + 3 \times 10^5}{6.4 \times 10^{-2}}$

.....

(2)

June 2019 2FR

24 (a) Write 840 000 in standard form.

.....

(1)

(b) Work out $(6 \times 10^7) \div (8 \times 10^{-2})$
Give your answer in standard form.

.....

(2)

20 (a) Write 7.8×10^{-4} as an ordinary number.

.....

(1)

(b) Work out $\dfrac{5.6 \times 10^4 + 7 \times 10^3}{2.8 \times 10^{-3}}$

Give your answer in standard form.

.....

(2)

24 The table shows information about the surface area of each of the world's oceans.

Ocean	Surface area in square kilometres
Pacific	1.56×10^8
Indian	6.86×10^7
Southern	2.03×10^7
Arctic	1.41×10^7
Atlantic	1.06×10^8

(a) Write 1.56×10^8 as an ordinary number.

.....

(1)

(b) Which ocean has the least surface area?

.....

(1)

(c) Work out the difference, in square kilometres, between the surface area of the Atlantic Ocean and the surface area of the Indian Ocean.
Give your answer in standard form.

..... square kilometres

(2)

June 2020 1F

18 (a) Write 5.7×10^{-3} as an ordinary number.

.....

(1)

(b) Write 800 000 in standard form.

.....

(1)

(c) Work out $\dfrac{3 \times 10^5 - 2.7 \times 10^4}{6 \times 10^{-2}}$

.....

(2)

January 2021 1F

22 (a) Write 2 840 000 000 in standard form.

.....

(1)

(b) Write 2.5×10^{-4} as an ordinary number.

.....

(1)

20

(b) Work out $\dfrac{9.6 \times 10^{141} + 6.4 \times 10^{140}}{3.2 \times 10^{16}}$

Give your answer in standard form.

.....

(3)

19 The table gives the length of the coastline, in kilometres, of each of five oceans.

Ocean	Length of coastline (km)
Arctic	4.539×10^4
Atlantic	1.119×10^5
Pacific	1.357×10^5
Indian	6.653×10^4
Southern	1.797×10^4

(a) Which ocean has the greatest length of coastline?

.....

(1)

(b) Calculate the difference between the length of the Atlantic Ocean's coastline and the length of the Southern Ocean's coastline.
Give your answer in standard form.

..... km

(2)

23 The table shows the populations of five countries.

Country	Population
China	1.4×10^9
Germany	8.2×10^7
Sweden	9.9×10^6
Fiji	9.1×10^5
Malta	4.3×10^5

(a) Work out the difference between the population of China and the population of Germany.
Give your answer in standard form.

.....

(2)

Given that

$$\text{population of Fiji} = \frac{1}{k} \times \text{population of Sweden}$$

(b) work out the value of k.
Give your answer correct to the nearest whole number.

$k =$ .....

(2)

25 A rainwater tank contains 2.4×10^7 raindrops.
The rainwater tank also contains 1.75×10^6 bacteria.

Work out the number of bacteria per raindrop in the tank.
Give your answer in standard form correct to 2 significant figures.

.....

(Total for Question 25 is 3 marks)

January 2022 1FR

22 (a) Write 5×10^4 as an ordinary number.

.....

(1)

(b) Write 0.000 06 in standard form.

.....

(1)

(c) Work out $(4 \times 10^{512}) \div (1.6 \times 10^{700})$
Give your answer in standard form.

.....

(2)

June 2022 1F

23 (a) Write 0.000 089 in standard form.

.....

(1)

(b) Write 8.34×10^4 as an ordinary number.

.....

(1)

26 The table gives information about the population, correct to 2 significant figures, of each of five cities in 2018

City	Population (2018)
Ahmedabad	7.7×10^6
Barcelona	5.5×10^6
Chicago	8.8×10^6
Lagos	1.3×10^7
Tokyo	3.7×10^7

(a) Write 8.8×10^6 as an ordinary number.

.....

(1)

(b) Which of these cities had the least population in 2018?

.....

(1)

(c) Work out the difference between the population of Tokyo and the population of Ahmedabad in 2018
Give your answer in standard form correct to 2 significant figures.

.....

(2)

24 (a) Write 6.25×10^{-4} as an ordinary number.

.....

(1)

(b) Work out $(2.4 \times 10^{12}) \div (9.6 \times 10^{4})$
Give your answer in standard form.

.....

(2)

January 2023 1FR

22 (a) Write 9.32×10^{-5} as an ordinary number.

.....

(1)

(b) Work out $3 \times 10^5 - 6 \times 10^4$

Give your answer in standard form.

.....

(2)

(c) Work out $(3 \times 10^{55}) \times (6 \times 10^{65})$

Give your answer in standard form.

.....

(2)

June 2023 2F

22 (a) Write $76\,000\,000$ in standard form.

.....

(1)

(b) Write 5.4×10^{-4} as an ordinary number.

.....

(1)

23 (a) Write 5.87×10^{-4} as an ordinary number.

.....

(1)

(b) Write 84 000 000 in standard form.

.....

(1)

The number of neurons in a human brain is 8.5×10^{10}
The number of neurons in a monkey brain is 1.47×10^{9}

The number of neurons in a human brain is $K \times$ the number of neurons in a monkey brain.

(c) Work out the value of K
Give your answer correct to one decimal place.

$K =$ .....

(2)