

Name:

Date:

Standard Form

GCSE

Edexcel

Mathematics

Grade (9-1)

Mark

Score (%)

<u>50</u>	
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Materials

For this paper you must have:

- Ruler
- Pencil, Rubber, Protractor and Compass
- Scientific calculator, which you are expected to use when appropriate

Instructions

- Answer all questions
- Answer questions in the space provided
- All working must be shown
- Do all rough work in this book. Cross out any rough work you don't want to be marked

Information

- The marks for the questions are shown in brackets

1 Circle the following which are in standard form.

A 2.2×10^4

B 1.002×10^{-2}

C 45×10^3

D 10^3

E 0.24

F 3×10^2

(Total for question 1 is 2 marks)

Leave blank

2 Put 25,000 into standard form.

.....
(Total for question 2 is 2 marks)

3 Write 12,500,000 in standard form.

.....
(Total for question 3 is 2 marks)

4 Convert this decimal into to standard form.

0.00027

.....
(Total for question 4 is 2 marks)

5 Write 5.2×10^3 as a normal number.

.....
(Total for question 5 is 2 marks)

6 Take 1.3×10^8 out of standard form.

Leave
blank

.....
(Total for question 6 is 2 marks)

7 What is 4.05×10^{-3} as a normal number.

.....
(Total for question 7 is 2 marks)

8 Find 10^{-5} written as a normal number.

.....
(Total for question 8 is 2 marks)

9 John makes a mistake when putting a number in standard form.
Write his number correctly in standard form.

$$37.2 \times 10^{11}$$

.....
(Total for question 4 is 2 marks)

10 Turn 620 into standard form

Leave
blank

.....
(Total for question 10 is 2 marks)

11 Write 0.0002 in standard form.

.....
(Total for question 11 is 2 marks)

12 Take 4.38×10^{-5} out of standard form.

.....
(Total for question 12 is 2 marks)

13 What is 1.0005×1000 in standard form.

.....
(Total for question 13 is 2 marks)

14 Calculate the following:

(a) $(4 \times 10^3) \times (2 \times 10^4)$

(b)
$$\frac{(6.3 \times 10^6) \times (3.6 \times 10^3)}{(1.2 \times 10^5)}$$

.....
(2)

.....
(2)

(Total for question 14 is 4 marks)

15 To calculate the number of moles of carbon, divide the number of particles by Avogadro's constant. Given that there are 1.806×10^{24} carbon particles and Avogadro's constant is 6.02×10^{23} , Calculate the number of moles of carbon.

.....
(Total for question 15 is 3 marks)

16 Evaluate $(3 \times 10^4)^2$

Leave
blank

.....
(Total for question 16 is 2 marks)

17 Turn 1.2×10^5 kg into grams giving you answer in standard form.

.....
(Total for question 17 is 2 marks)

18 Simplify $3 \times 10^4 \times 2 \times 10^3$
Give your answer in standard form.

6×10^7

.....
(2)

.....
(2)
(Total for question 18 is 4 marks)

19 A manufacturer has 4.5×10^4 kg of compost. They wish to sell them 1.25 kg bags.
How many full bags are they able to make?

Leave
blank

.....
(Total for question 19 is 2 marks)

20 Write the following numbers in order of size.
Start with the smallest number.

0.059×10^2 5900×10^{-4} 590 0.59×10^{-1}

.....
(Total for question 20 is 2 marks)

21 The surface area of Earth is 510 072 000 km².
The surface area of Jupiter is 6.21795×10^{10} km².

The surface area of Jupiter is greater than the surface area of Earth.
How many times greater?
Give your answer in standard form.

.....
(Total for question 21 is 3 marks)