

National 5 Maths Scientific Notation

SQA past paper and specimen paper questions and answers by topic

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National 5 Maths SQA 2015 Paper 2 Question 6



(a) The Earth is approximately spherical with a radius of 6400 kilometres.

Calculate the volume of the Earth giving your answer in scientific notation, correct to 2 significant figures.



3

2

(b) The approximate volume of the Moon is $2 \cdot 2 \times 10^{10}$ cubic kilometres. Calculate how many times the Earth's volume is greater than the Moon's.

Answers:

- (a) $1.1 \times 10^{12} \text{ km}^3$
- (b) 50

National 5 Maths SQA 2016 Paper 2 Question 2



A pollen sample weighs 12 grams and contains 1.5×10^9 pollen grains.



2

Calculate the weight of **one** pollen grain in grams. Give your answer in scientific notation.

Answer:

 $8 \times 10^{-9} \, g$

National 5 Maths SQA 2017 Specimen Paper 2 Question 2



2

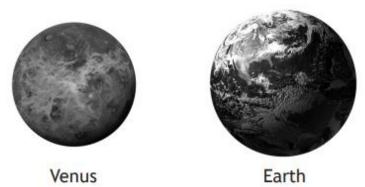
Answer:

 1.65×10^{9}

National 5 Maths SQA 2018 Paper 2 Question 11



Venus and Earth are two planets within our solar system.



The volume of Venus is approximately 9.3×10^{11} cubic kilometres.

This is 85% of the volume of Earth.

Calculate the volume of Earth.

Answer:

 $1.094 \times 10^{12} \text{ km}^3$

3

National 5 Maths SQA 2019 Paper 2 Question 4



A sesame seed weighs 3.6×10^{-6} kilograms.	
The weight of a poppy seed is 8% of the weight of a sesame seed.	
Calculate the weight of a poppy seed in kilograms.	
Give your answer in scientific notation.	2

Answer:

 $2.88 \times 10^{-7} \text{ kg}$

National 5 Maths SQA 2021 Paper 2 Question 2



Light travels at 3×10^8 metres per second.

A star is $4 \cdot 2 \times 10^{17}$ metres away from Earth.

Calculate the number of seconds it takes for light from this star to reach Earth.

Give your answer in scientific notation.

Answer:

 1.4×10^9 seconds

National 5 Maths SQA 2023 Paper 2 Question 2



3

The mass of a helium atom is 6.64×10^{-24} grams.

A flask contains 300 grams of helium.

Calculate the number of helium atoms in this flask.

Give your answer in scientific notation, correct to 3 significant figures.

Answer:

 4.52×10^{25}