



ACHIEVE ACADEMY

GCSE Maths — Higher Tier

Standard Form · Practice Booklet

NAME:

CLASS:

DATE:

☐ Developing

☒ Secure

☐ Greater Depth

Answer every question in the working space provided. Method marks are available for correct working even if the final answer is wrong. Check the time allowed with your tutor before you start.

Standard Form

Total marks available: 110

● Standard Form

Q1

[3 marks]

Calculate $(4 \times 10^3) \times (6 \times 10^{-2})$. Give your answer in standard form.

Q2

[3 marks]

Calculate $(7.7 \times 10^{-2}) \times (4.1 \times 10^{-2})$. Give your answer in standard form.

Q3

[3 marks]

Calculate $(6.3 \times 10^1) \times (9.3 \times 10^4)$. Give your answer in standard form.

Q4

[3 marks]

Calculate $(5.8 \times 10^1) \times (7.7 \times 10^{-2})$. Give your answer in standard form.

Q5

[3 marks]

Calculate $(4.9 \times 10^6) \times (7.6 \times 10^{-1})$. Give your answer in standard form.

Q6

[3 marks]

Calculate $(5.5 \times 10^5) \times (9 \times 10^2)$. Give your answer in standard form.

Q7

[3 marks]

Calculate $(9.69 \times 10^{-3}) \div (3.7 \times 10^2)$. Give your answer in standard form, correct to 3 significant figures.

Q8

[3 marks]

Calculate $(2.37 \times 10^{-2}) \div (5.6 \times 10^2)$. Give your answer in standard form, correct to 3 significant figures.

Q9

[3 marks]

Calculate $(2.26 \times 10^{-3}) \div (4.6 \times 10^4)$. Give your answer in standard form, correct to 3 significant figures.

Q10

[3 marks]

Calculate $(8.2 \times 10^2) \times (8.4 \times 10^0)$. Give your answer in standard form.

Q11

[4 marks]

A spacecraft travels 3.9×10^7 km in 8.5×10^5 hours. Calculate its average speed in km/h, giving your answer in standard form, correct to 3 significant figures.

Q12

[4 marks]

Calculate $(8.9 \times 10^4) - (6.9 \times 10^3)$. Give your answer in standard form.

Q13

[4 marks]

A spacecraft travels 7.4×10^{11} km in 4.3×10^5 hours. Calculate its average speed in km/h, giving your answer in standard form, correct to 3 significant figures.

Q14

[4 marks]

A spacecraft travels 4.3×10^{10} km in 5.2×10^3 hours. Calculate its average speed in km/h, giving your answer in standard form, correct to 3 significant figures.

Q15

[4 marks]

Calculate $(8.5 \times 10^5) + (5.4 \times 10^3)$. Give your answer in standard form.

Q16

[4 marks]

Calculate $(2.7 \times 10^5) + (8.5 \times 10^2)$. Give your answer in standard form.

Q17

[4 marks]

A spacecraft travels 5.9×10^6 km in 1.3×10^3 hours. Calculate its average speed in km/h, giving your answer in standard form, correct to 3 significant figures.

Q18

[4 marks]

Calculate $(3.1 \times 10^5) - (1.2 \times 10^4)$. Give your answer in standard form.

Q19

[4 marks]

A spacecraft travels 4×10^7 km in 2×10^1 hours. Calculate its average speed in km/h, giving your answer in standard form, correct to 3 significant figures.

Q20

[4 marks]

Calculate $(1.8 \times 10^9) + (6.1 \times 10^7)$. Give your answer in standard form.

Q21

[4 marks]

Calculate $(1.2 \times 10^5)^3$. Give your answer in standard form.

Q22

[4 marks]

$(3 \times 10^4) \div (5 \times 10^n) = 6 \times 10^3$. Find the value of n .

Q23

[4 marks]

$(3.75 \times 10^6) \div (2.5 \times 10^n) = 1.5 \times 10^4$. Find the value of n .

Q24

[4 marks]

Calculate $(2.9 \times 10^3)^2$. Give your answer in standard form.

Q25

[4 marks]

Calculate $(1.4 \times 10^3)^2$. Give your answer in standard form.

Q26

[4 marks]

$(1.8 \times 10^5) \div (1.5 \times 10^n) = 1.2 \times 10^3$. Find the value of n .

Q27

[4 marks]

$(3.2 \times 10^2) \div (2 \times 10^n) = 1.6 \times 10^0$. Find the value of n .

Q28

[4 marks]

$(5.4 \times 10^5) \div (1.5 \times 10^n) = 3.6 \times 10^4$. Find the value of n .

Q29

[4 marks]

$(12.8 \times 10^5) \div (4 \times 10^n) = 3.2 \times 10^2$. Find the value of n .

Q30

[4 marks]

Calculate $(2.9 \times 10^5)^3$. Give your answer in standard form.