The Panda Math Tutor

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Standard Form

Student Worksheet

Questions & Working Space

IGCSE Mathematics

Name: _____

Date: _____

Prepared by

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Contents

1 Part I — Topic-by-Topic Exercises **2**
1.1 What is Standard Form? . . . 2
1.2 Converting Large Numbers . . . 4
1.3 Converting Small Numbers . . . 5
1.4 Standard Form to Ordinary Numbers . . . 7
1.5 Ordering and Comparing . . . 9
1.6 Multiplication in Standard Form . . . 10
1.7 Division in Standard Form . . . 12
1.8 Addition and Subtraction . . . 14
1.9 Using a Calculator . . . 16
1.10 Real-World Applications . . . 17

2 Part II — Mixed Review **19**

3 Part III — Examination-Style Practice **23**

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Note

How to use this worksheet. These questions are built *strictly* on the *Standard Form* notes: the meaning of $a \times 10^n$, converting large and small numbers, converting back to ordinary numbers, ordering and comparing, multiplying, dividing, adding and subtracting in standard form, using a calculator correctly, and real-world applications.
Working space. Ruled lines are provided after each question — show *all* of your working there, state the rule you are using, and always finish by checking that your answer satisfies $1 \leq a < 10$. Harder questions have a teal **Hint** box; try the question first and use the hint only if you are stuck.
Checking your answers. Full step-by-step solutions, a marking scheme for the exam paper, and a quick answer key are in the separate booklet *"Standard Form — Solutions & Answer Key."* Try each question honestly before you look.

1 Part I — Topic-by-Topic Exercises

1.1 What is Standard Form?

Exercise W1 *[Basic]*

A number is written in the form $a \times 10^n$. State the two conditions that a and n must satisfy for the number to be in standard form.

Exercise W2 *[Basic]*

State whether each number is in correct standard form. If it is not, rewrite it correctly:

(a) 6.4×10^3 (b) 47×10^5 (c) 0.9×10^{-2} (d) 1.0×10^7

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Exercise W3 *[Standard]*

Without writing the full standard form, state whether the power n would be positive, negative or zero:

(a) 0.0072 (b) 4 903 (c) 7.6 (d) 0.85

Hint

Compare each number with 1 and with 10. Numbers that already lie between 1 and 10 need no shift at all.

Exercise W4 *[Intermediate]*

A student claims: "Any number written with a $\times 10^n$ in it is in standard form." Give **two** counterexamples — one where a is too large and one where a is too small — and write each of your counterexamples correctly in standard form.

Exercise W5 *[Intermediate]*

Explain why writing 10^6 on its own is not a properly presented standard-form answer, and write it correctly.

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Preview ends here

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