

# The Panda Math Tutor

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## Standard Form

Student Worksheet  
Questions & Working Space  
IGCSE Mathematics

Name: \_\_\_\_\_

Date: \_\_\_\_\_

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Teach → Practice → Reason → Apply → Challenge → Master

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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.

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## 1 Part I — Topic-by-Topic Exercises

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### 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)  $6.4 \times 10^3$    (b)  $47 \times 10^5$    (c)  $0.9 \times 10^{-2}$    (d)  $1.0 \times 10^7$

**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.

## Preview ends here

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