1. Factual recall

Convert to standard form:
a) 2900000

b) 0.0000094

Convert to an ordinary number:
a) 3.12×10^7

b) 2.4×10^{-5}

2. Carry out a routine procedure

Calculate:

a) $3 \times 10^7 + 2 \times 10^5$

b) $2.1 \times 10^{-3} + 3 \times 10^{-4}$

c) $1.9 \times 10^5 + 7.96 \times 10^3$

d) $7.3 \times 10^{-2} - 8.1 \times 10^{-4}$

3. Classify some mathematical object

For each of the following, say whether the calculation is true or false.

a) $7 \times 10^4 + 9 \times 10^5$
$= 7.9 \times 10^4$

b) $8.1 \times 10^{-2} - 1.2 \times 10^{-3}$
$= 7.98 \times 10^{-2}$

c) $3.1 \times 10^2 + 7.1 \times 10^{-2}$
$= 3.10071 \times 10^2$

4. Interpret a situation or answer

The following table shows the diameters of the outer ring planets in meters.

Planet	Diameter (m)
Jupiter	1.40×10^8
Saturn	1.16×10^8
Uranus	5.07×10^7
Neptune	4.92×10^7

Calculate the biggest difference between 2 planets diameter.

Standard Form: Addition and Subtraction

5. Prove, show, justify

The table shows the length of coastlines for the following countries in Km.

Country	L of Coastline
Canada	2.03×10^5
Norway	8.31×10^4
Indonesia	5.47×10^4
Russia	3.77×10^4

Show that Canada's is longer than the sum of the other countries.

6. Extend a concept

Using the fact

$$x \times 10^a + y \times 10^b = z \times 10^b$$

Create an equation for z

7. Construct an instance

Form two calculations:
An addition of standard form.
A subtraction of standard form.
That gives the same answer.

8. Criticise a fallacy

A student attempts the following question:

$$(7.1 \times 10^5) + (4.2 \times 10^4)$$
$$\approx 11.3 \times 10^9$$
$$= 1.13 \times 10^8$$

Identify and explain all the student's mistakes.