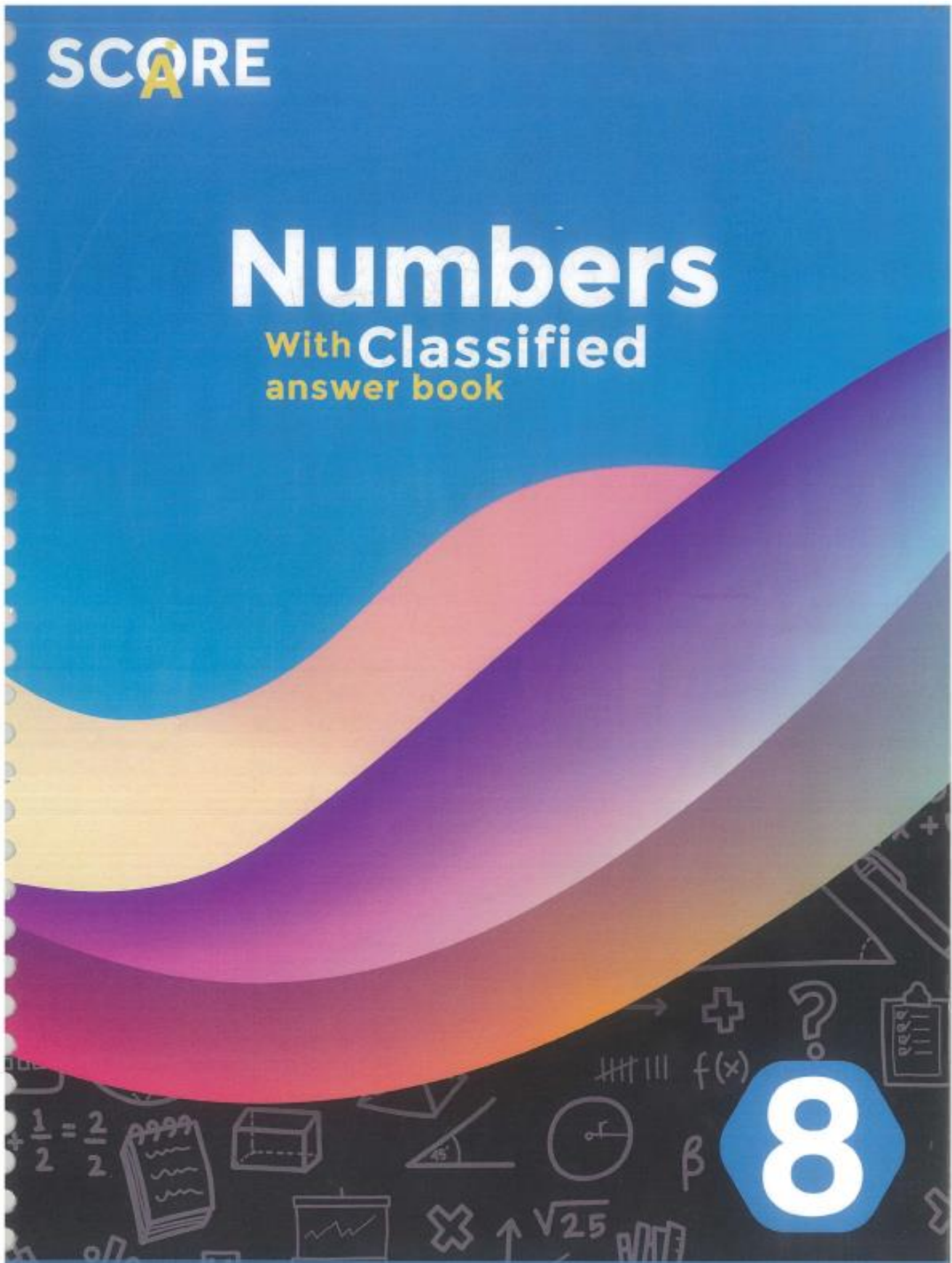


Classified - Standard Form



2-Standard Form

1. Write the following numbers in standard form.

(a) 40000

(b) 5600

(c) 41200000

(d) 0.00000008

(e) 0.000345

2. Write 37341000000 in standard form.

3. Write 0.000000000000412 in standard form.

4. Asma was asked to compare the following two numbers.

$$A = 6.212 \times 10^8 \quad \text{and} \quad B = 4.73 \times 10^9$$

She says,

"6.212 is bigger than 4.73 so A is bigger than B."

Is Asma correct?

You must give a reason for your answer.

5.

5^3 is the same as $\frac{10^3}{2}$

Prove that Amir is incorrect.

6. a) How would 5 200 be written in standard form?

b) How would 52 000 be written in standard form?

c) Write 5.2×10^6 as an ordinary number.

d) Write 4.07×10^{-2} as an ordinary number

7. (a) A scientist writes the number 760 000 000 in standard form.

Draw a ring around the correct answer.

$$7.6 \times 10^7$$

$$76 \times 10^7$$

$$7.6 \times 10^8$$

$$7.6 \times 10^9$$

(b) The scientist measures the width of a human hair as 0.000 046 m.

Write this number in standard form.

8. Dexter is comparing numbers in standard form.

5×10^4 is greater
than 6.7×10^3

Do you agree with Dexter?

Explain your answer.

9. Write $>$, $<$ or $=$ to complete the statements.

a) 6.5×10^3 6.5×10^4

c) 1.7×10^3 1.70×10^3

b) 8.3×10^5 8×10^5

d) 4.8×10^6 4.9×10^5

10. Dora is also comparing numbers in standard form.

3×10^{-2} is greater
than 4×10^{-3}

Do you agree with Dora?

Explain your answer.

11. Fill in the blanks.

$$10^3 \times 10^3 = 10^{\square} \times 10^5$$

$$10^{6+4} = 10^{3 \times 10^{\square}}$$

12. Find, in standard form, the value of $(3 \times 10^2) \times (5 \times 10^6)$.

13. Which of these has the greatest value? Circle your answer.

6.15×10^4

61.499

6.2×10^3

61.6×10^3

14. Circle the number written in standard form.

0.5×10^4

5×10^{-4}

50×10^4

$5 \times 10^{0.4}$

15. The width of a hair is approximately 0.000018 m

Whitney writes this in standard form as 18×10^{-6}

Whitney is wrong.

Write the width of a hair correctly in standard form.

16. The table shows the approximate populations of four countries.

| Country | Population |
|---------|-------------------|
| China | 1.4×10^9 |
| Iceland | 3.4×10^5 |
| UK | 6.8×10^7 |
| USA | 3.3×10^8 |

Which country has the smallest population?

Write the population of the UK as an ordinary number.

17. a) The distance from Earth to Mars is about 66.3 million km.

Write 66.3 million km in standard form.

b) The distance from Earth to Pluto is about 5.12 billion km.

c) Write 5.12 billion km in standard form.

18. Tick (✓) to show which of these expressions is the number 87 000 000 written in standard form.

870×10^5 87×10^6 8.7×10^7 0.87×10^8

19. Solve the equations.

a) $10^6 \times b = 10^{10}$

b) $100^a = 10^8$

c) $10^4 \times c = 10^{12}$

d) $100 = \frac{10^6}{d}$

e) $\frac{10^6}{e} = 10^3$

f) $\frac{10^6}{f} = 10$

20. Fill in the boxes to complete the statements.

a) $10^{\square} = 10 \times 10$

b) $10^4 = 10 \times 10 \times \square$

c) $10^2 \times 10^4 = 10^{\square}$

d) $10^3 \times 10^{\square} = 10^9$