Numbers – 2025 Specimen IGCSE 0580 Math

1. Specimen/2025/Paper_01/No.1

Kim takes part in a race that covers a total distance of 20 000 m.
She cycles 17 875 m and runs the remaining distance.

(a) Work out the distance Kim runs.

..... m [1]

(b) Write the number 17 875 in words.

.....

..... [1]

(c) Write the number 17 875 correct to the nearest hundred.

..... [1]

2. Specimen/2025/Paper_01/No.3

The number N is both a multiple of 12 and a square number.

Find the smallest possible value of N.

..... [2]

3. Specimen/2025/Paper_01/No.4

A coin is made from a mixture of tin, copper and zinc.
The table shows the percentage of each metal used.

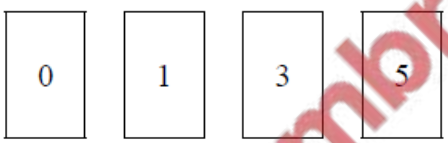
Metal	Tin	Copper	Zinc
Percentage	0.4%	96.5%	k%

Work out the value of k.

$k =$ ..... [2]

4. Specimen/2025/Paper_01/No.5

Here are four number cards.



Using each card once, write down one number between 3020 and 3200.

..... [1]

5. Specimen/2025/Paper_01/No.6

Write the ratio 90 : 120 in its simplest form.

..... : ..... [1]

6. Specimen/2025/Paper_01/No.9

A cake has a mass of 600 g.

Joe eats $\frac{1}{5}$ of the cake.

Find the mass of the cake that is left.

..... g [2]

7. Specimen/2025/Paper_01/No.11

Work out.

(a) $7 + 9 \times 3$

..... [1]

(b) $-6 - (-12)$

..... [1]

(c) 10^{-2}

..... [2]

8. Specimen/2025/Paper_01/No.13

A plane flies from London to Colombo.
The time in London when the plane leaves is 08 20 on Saturday.
The time in Colombo when the plane arrives is 02 15 on Sunday.
The flight time is 13 hours 25 minutes.

Find the time difference between London and Colombo.
State whether the time in Colombo is ahead or behind the time in London.

[3]

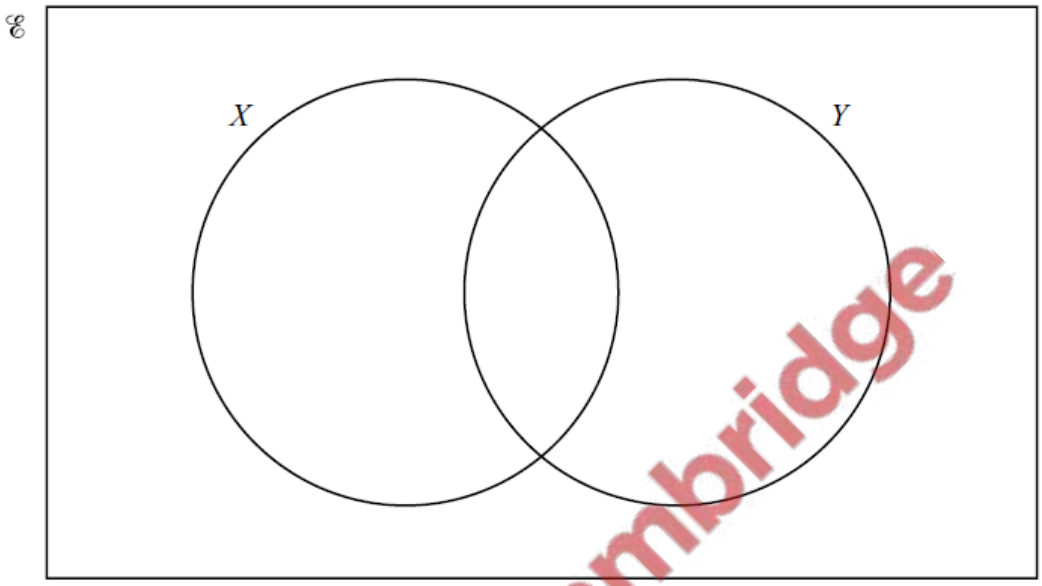
9. Specimen/2025/Paper_01/No.21

$\mathscr{E} = \{a, b, d, e, f, h, i, m, p, t, u\}$

$X = \{a, e, i, u\}$

$Y = \{d, e, m, p, t, u\}$

(a) Use this information to complete the Venn diagram.



[2]

(b) List the elements of $X \cap Y$.

..... [1]

(c) Find $n(X')$.

..... [1]

10. Specimen/2025/Paper_01/No.22

The length, L, of a road is 39 700 m, correct to the nearest 50 m.

Complete this statement about the value of L.

..... $\leqslant L <$ ..... [2]

11. Specimen/2025/Paper_02/No.1

Work out $(0.01)^2$.

..... [1]

12. Specimen/2025/Paper_02/No.3

Aimee changes 250 euros into dollars.
The exchange rate is 1 euro = \$1.10 .

Calculate the number of dollars Aimee receives.

\$ ..... [1]

13. Specimen/2025/Paper_02/No.6

The mass of a solid metal cuboid is 4 kg. The volume of the cuboid is 600 cm^3.

Calculate the density of the metal, giving your answer in **g/cm^3**.
[Density = mass ÷ volume]

..... g/cm^3 [2]

14. Specimen/2025/Paper_02/No.10

Work out $2\frac{2}{3}+3\frac{1}{2}$.

Give your answer as a mixed number in its simplest form.

..... [3]

15. Specimen/2025/Paper_02/No.11

Find the value of $64^{\frac{2}{3}}$.

..... [2]

16. Specimen/2025/Paper_02/No.12

Work out, giving your answer in standard form,

(a) $(7.1 \times 10^{-15}) \times (2 \times 10^{3})$

..... [2]

(b) $(5.2 \times 10^{7}) + (5.2 \times 10^{6})$.

..... [2]

17. Specimen/2025/Paper_02/No.19

(a) Simplify.

$$\sqrt{32} + \sqrt{98}$$

..... [2]

(b) Rationalise the denominator.

$$\frac{1}{\sqrt{2}+1}$$

..... [2]

18. Specimen/2025/Paper_02/No.20

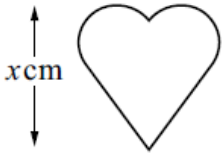
$$y \propto \frac{1}{\sqrt{x}}$$

When $y = 8$, $x = 4$.

Find y when $x = 49$.

$y =$ ..... [3]

19. Specimen/2025/Paper_02/No.25



NOT TO SCALE

The two shapes are mathematically similar.
The area of the larger shape is $36\,cm^2$ and the area of the smaller shape is $25\,cm^2$.
The height of the larger shape is 9 cm and the height of the smaller shape is x cm.

Find the value of x.

$x =$ ..... [3]

20. Specimen/2025/Paper_03/No.2

Write down all the factors of 68.

..... [2]

21. Specimen/2025/Paper_03/No.3

Insert one pair of brackets to make this statement correct.

$$4 \times 6 - 2 + 1 = 17$$

[1]

22. Specimen/2025/Paper_03/No.4

Write down the reciprocal of 4.

..... [1]

23. Specimen/2025/Paper_03/No.5

Find the value of

(a) 24^2

..... [1]

(b) $\sqrt[3]{2197}$.

..... [1]

24. Specimen/2025/Paper_03/No.6

The lowest temperature recorded at Scott Base in Antarctica is –57.0 °C.
The highest temperature recorded at Scott Base is 63.8 °C more than this.

Calculate the highest temperature recorded at Scott Base.

..... °C [1]

25. Specimen/2025/Paper_03/No.7

Lee changes $450 into euros.
The exchange rate is $1 = 0.8476 euros.

Calculate the amount in euros that Lee receives.

..... euros [1]

26. Specimen/2025/Paper_03/No.10

Calculate.

$$\frac{13.7 + 14.02}{-0.31 + \sqrt[3]{15.625}}$$

Give your answer correct to 2 decimal places.

..... [2]

27. Specimen/2025/Paper_03/No.16

Jo and Mira buy a shop.

(a) They pay for the shop in the ratio Jo : Mira = 7 : 15.
Mira pays $84 000 more than Jo.

Work out how much they each pay.

Jo $ .....

Mira $ .....
[3]

(b) The shop makes a profit of $56 000.
Jo receives 12% of the profit.
Mira receives $14 000 of the profit.
The rest of the profit is put into a bank account.

(i) Calculate how much money Jo receives.

$ ..... [1]

(ii) Calculate the amount put into the bank account as a percentage of the profit.

..... % [2]

(iii) Mira invests $14 000 at a rate of 2.4% per year compound interest.

Calculate the value of this investment at the end of 4 years.

$ ..... [2]

28. Specimen/2025/Paper_03/No.17

The number, N, is written as a product of its prime factors.

$N = 2^4 \times 3^2$

(a) Work out the value of N.

..... [1]

(b) Find the highest common factor (HCF) of 120 and N.

..... [2]

(c) Find the lowest common multiple (LCM) of 120 and N.

..... [1]

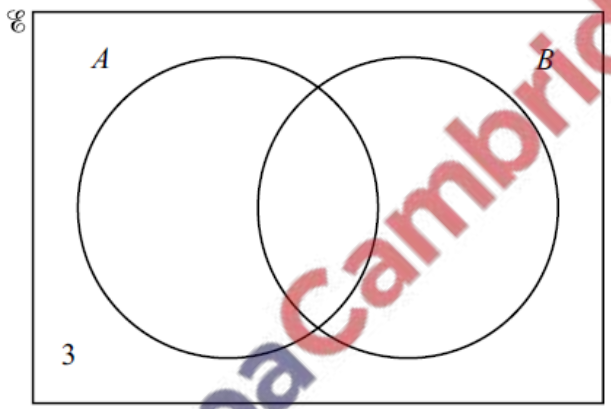
29. Specimen/2025/Paper_03/No.20

Luca walks at a speed of 5.4 kilometres per hour.

Write this speed in metres per second.

..... m/s [2]

30. Specimen/2025/Paper_04/No.11



$n(\mathscr{E}) = 20$, $n(A \cup B)' = 3$, $n(A) = 10$ and $n(B) = 13$.
The Venn diagram shows some of this information.

Find

(a) $n(A \cap B)$.

..... [2]

(b) $n(A' \cap B)$.

..... [1]

31. Specimen/2025/Paper_04/No.14

(a) Hong has $4000 to invest.
She invests $2000 at a rate of 2.5% per year **simple** interest.
She also invests $2000 at a rate of 2% per year **compound** interest.

(i) Find the value of each investment at the end of 8 years.

Simple interest investment $ .....

Compound interest investment $ .....
[5]

(ii) Find the overall percentage increase in the $4000 investment at the end of 8 years.

..... % [2]

32. Specimen/2025/Paper_04/No.23

Serge walks 7.9 km, correct to the nearest 100 metres.
The walk takes 133 minutes, correct to the nearest minute.

Calculate the maximum possible average speed of Serge's walk.
Give your answer in kilometres/hour.

..... km/h [3]