STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/01

Paper 1 (Core)

Mock Set 4

1 hour 30 minutes

INSTRUCTIONS

- Answer all questions.
- Use a black or dark blue pen. You may use an HB pencil for any diagrams or graphs.
- Write your name, centre number and candidate number in the boxes at the top of the page.
- Write your answer to each question in the space provided.
- Do not use staples, paper clips, correction fluid or correction tape.
- You must NOT use a calculator.

INFORMATION

- The total mark for this paper is 80.
- The number of marks for each question or part question is shown in brackets [ ].
- You must show all necessary working clearly.

This is a Stadira Training Institute practice paper. It is not a past paper and is not endorsed by Cambridge Assessment International Education. It was written by teachers with more than 15 years teaching the Cambridge IGCSE curriculum.

1

(a) Work out 5000 - 1728 .

[1]

(b) A number is multiplied by 6 and then 14 is subtracted.

The result is 100.

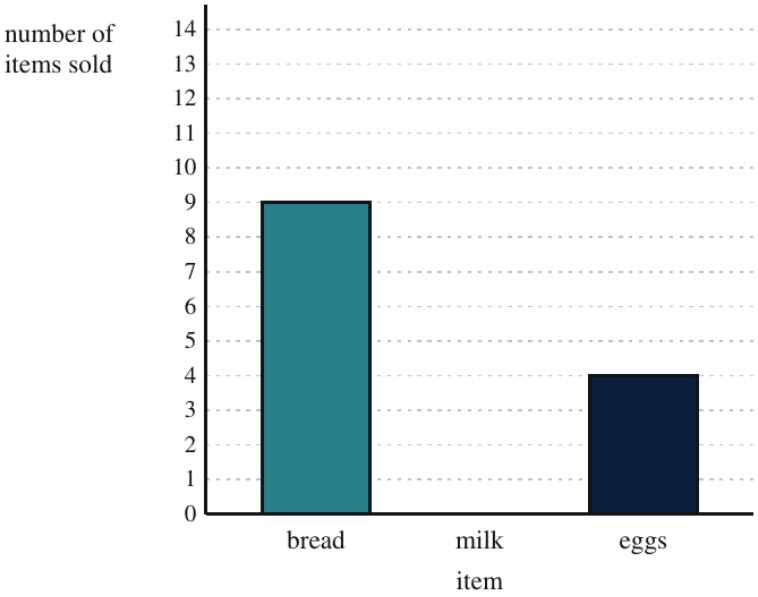
Work out the number.

[2]

2

A shop sells bread, milk and eggs.

The bar chart shows sales on one morning.



(a) In total 25 items are sold.

Complete the bar chart for milk.

[2]

(b) Work out the percentage of the items sold that are eggs.

Answer ..... % [2]

3

Work out, giving each answer in its simplest form.

(a) $\frac{7}{8} - \frac{2}{3}$

[2]

(b) $2\frac{1}{4} \times \frac{2}{3}$

[2]

4

Two brothers share some money in the ratio 5 : 3 .

The older brother receives P240 more than the younger brother.

(a) Work out the total amount of money shared.

[3]

(b) Work out the amount the younger brother receives.

[1]

5

These are the first four terms of a sequence.

6 13 20 27

(a) Find an expression for the *n*th term of this sequence.

[2]

(b) Explain why 100 is not a term of this sequence.

[1]

6

In a sale, all prices are reduced by 20%.

A jacket costs P360 in the sale.

(a) Work out the price of the jacket before the sale.

[3]

(b) A shirt cost P150 before the sale.

Work out its price in the sale.

[2]

7

Mpho buys x exercise books.

Each exercise book costs P12 .

She also buys one pen costing P25 .

Altogether she spends P133 .

(a) Write down an equation in terms of x.

[2]

(b) Solve your equation to find the number of exercise books she buys.

[2]

8

(a) Write 90 as a product of its prime factors.

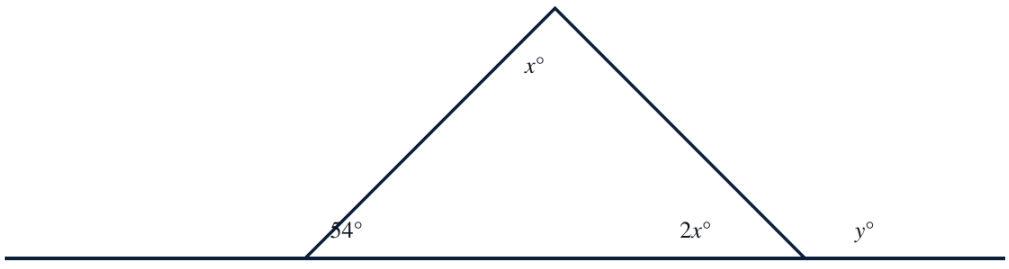
[2]

(b) Find the lowest common multiple (LCM) of 90 and 24.

[2]

9

NOT TO SCALE



The diagram shows a triangle standing on a straight line.

(a) Write down an equation in x and solve it.

[2]

(b) Find the value of y.

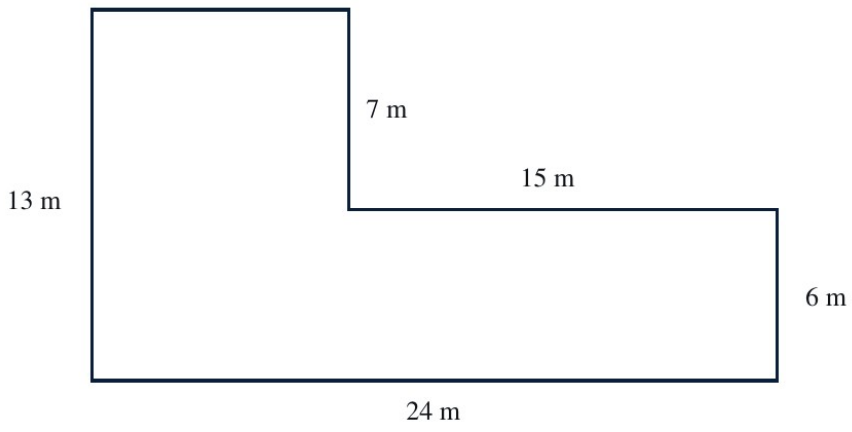
[2]

10

The diagram shows an L-shaped piece of land.

All angles are right angles.

NOT TO SCALE



(a) Work out the area of the land.

Answer ..... m^2 [2]

(b) Work out the perimeter of the land.

Answer ..... m [2]

11

A bag contains only red, green and blue counters.

There are 3 red counters and 5 green counters.

The probability of taking a blue counter is $\frac{1}{3}$.

(a) Work out the number of blue counters in the bag.

[2]

(b) One counter is taken at random.

Find the probability that it is red or green.

[2]

12

The stem-and-leaf diagram shows the masses, in kilograms, of 15 parcels.

1	2 5 8
2	0 3 3 6 9
3	1 4 7 7
4	2 5 8

key : 1 | 2 represents 12 kg

(a) Write down the median mass.

Answer ..... kg [1]

(b) Work out the range.

Answer ..... kg [1]

(c) Work out the fraction of the parcels with a mass of more than 30 kg.

Give your answer in its simplest form.

[2]

13

A cuboid has a square base of side 4 cm.

Its volume is 112 cm^3.

(a) Work out the height of the cuboid.

Answer ..... cm [2]

(b) Work out the total surface area of the cuboid.

Answer ..... cm^2 [2]

14

(a) Work out $2^5 \times 2^{-2}$.

Give your answer as a whole number.

[2]

(b) Work out $\sqrt{0.36} + 0.4^2$.

[2]

15

Solve the simultaneous equations.

You must show all your working.

$5x + 2y = 4$

$3x - y = 9$

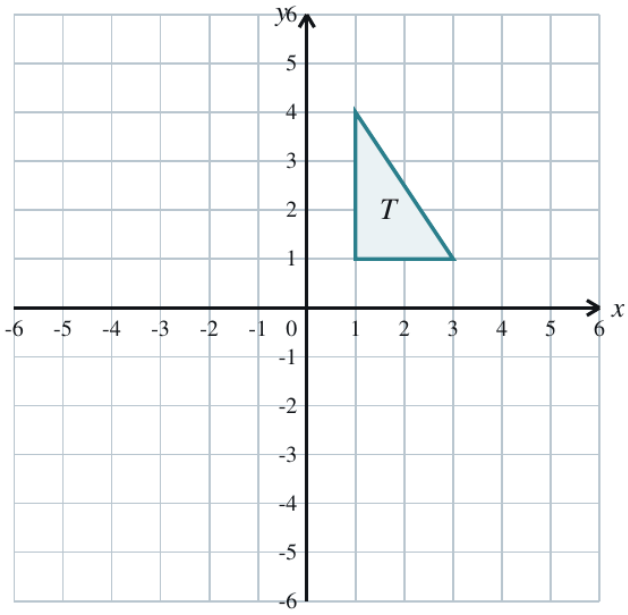
[1]

[1]

[4]

16

The diagram shows triangle T on a grid.



(a) Rotate triangle T 180° about the point (0, 0).

[2]

(b) Enlarge triangle T with scale factor 2, centre (1, 1).

[2]

(c) Describe fully the single transformation that maps triangle T onto a triangle with vertices (-1, 1), (-1, 4) and (-3, 1).

[2]

17

(a) Expand and simplify.

$3(x - 4) - 2(5 - 2x)$

[2]

(b) Factorise completely.

$12ab - 18b^2$

[2]

18

A car travels for 2 hours at 60 km/h and then for 30 minutes at 80 km/h.

(a) Work out the total distance travelled.

Answer ..... km [2]

(b) Work out the average speed for the whole journey.

Answer ..... km/h [2]

19

A regular polygon has an interior angle of 162°.

(a) Work out the number of sides of the polygon.

[2]

(b) Work out the sum of the interior angles of the polygon.

Answer ..... ° [2]

20

A straight line passes through the point (2, 1) and has gradient -3 .

(a) Find the equation of the line in the form $y = mx + c$.

[2]

(b) Write down the coordinates of the point where this line crosses the y-axis.

Answer (..... , ...) [1]

END OF PAPER