STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/03

Paper 3 (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 may 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 should use a calculator where appropriate.

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 minibus service runs between two villages.

(a) The fare is P18.50 for an adult and P9.25 for a child.

On one trip there are 11 adults and 6 children.

Work out the total fare collected.

[3]

(b) The minibus leaves at 06 40 and the journey takes 2 hours 55 minutes.

Write down the arrival time.

[1]

(c) The distance is 168 km.

Calculate the average speed of the minibus for this journey.

Give your answer correct to 1 decimal place.

Answer ..... km/h [3]

2

The table shows the number of siblings of each of 40 learners.

siblings	0	1	2	3	4
frequency	5	11	14	7	3

(a) Write down the mode.

[1]

(b) Find the median.

[2]

(c) Calculate the mean number of siblings.

Give your answer correct to 2 decimal places.

[3]

(d) One learner is chosen at random.

Find the probability that this learner has fewer than 2 siblings.

[2]

3

A rectangular field has a perimeter of 260 m.

Its length is 30 m more than its width.

(a) Work out the width of the field.

Answer ..... m [3]

(b) Calculate the area of the field.

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

4

Kabo invests P12 000 at a rate of 5.5% per year simple interest.

(a) Calculate the total interest after 7 years.

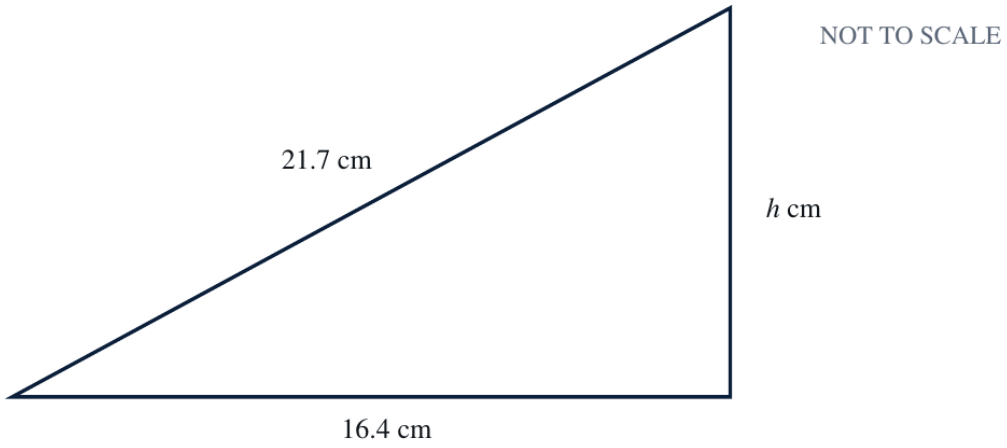
[2]

(b) Calculate the number of complete years it takes for the interest to reach at least P5000 .

[3]

5

The diagram shows a right-angled triangle.



(a) Calculate h.

Give your answer correct to 3 significant figures.

Answer ..... cm [3]

(b) Calculate the perimeter of the triangle.

Answer ..... cm [2]

6

Solve these equations.

(a) $7(x - 3) = 4x + 9$

[3]

(b) $\frac{2x + 1}{5} = 3$

[2]

7

A model of a building is made to a scale of 1 : 200 .

(a) The real building is 46 m tall.

Work out the height of the model in centimetres.

Answer ..... cm [3]

(b) A door on the model is 1.05 cm wide.

Work out the width of the real door in metres.

Answer ..... m [2]

8

A box contains 24 chocolates.

7 are dark, 9 are milk and the rest are white.

(a) One chocolate is taken at random.

Find the probability that it is white.

[2]

(b) A different box contains chocolates in the ratio dark : milk = 3 : 5 .

There are 40 milk chocolates and no others.

Work out the total number of chocolates in this box.

[3]

9

The nth term of a sequence is $60 - 7n$.

(a) Write down the first three terms.

[2]

(b) Find the first term of the sequence that is negative.

You must show your working.

[3]

10

A cylindrical water tank has radius 1.2 m and height 2.5 m.

(a) Calculate the volume of the tank in cubic metres.

Give your answer correct to 3 significant figures.

Answer ..... m^3 [3]

(b) 1 cubic metre = 1000 litres.

The tank is filled at a rate of 45 litres per minute.

Calculate the time taken to fill the tank completely.

Give your answer in hours and minutes, correct to the nearest minute.

Answer ..... , ... [4]

11

A shop buys a bicycle for P1450 and sells it for P2030 .

(a) Calculate the percentage profit.

Answer ..... % [3]

(b) A second bicycle is sold for P1794 at a profit of 15%.

Calculate the price the shop paid for this bicycle.

[3]

12

$y = \frac{24}{x}$

(a) Complete the table of values.

x	1	2	3	4	6	8
y	24		8		4	

[3]

(b) Write down what happens to y as x increases.

[1]

13

A regular polygon has an exterior angle of 15°.

(a) Work out the number of sides.

[2]

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

Answer ..... ° [2]

14

(a) Work out $(3.2 \times 10^{5}) \times (4.5 \times 10^{-2})$.

Give your answer in standard form.

[2]

(b) Work out $\frac{\sqrt{53.29}}{2.6\square^{2}}$.

Give your answer correct to 3 significant figures.

[2]

15

Bame records the heights, h cm, of 60 plants.

The table shows the results.

height (h cm)	$0 < h \leq 15$	$15 < h \leq 30$	$30 < h \leq 45$	$45 < h \leq 60$
frequency	10	20	22	8

(a) Write down the modal class.

[1]

(b) Calculate an estimate of the mean height.

Give your answer correct to 1 decimal place.

Answer ..... cm [4]

END OF PAPER