STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/03

Paper 3 (Core)

Mock Set 3

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 hardware shop records its sales one week.

(a) The shop sells 236 bags of cement and 189 bags of sand.

Work out the total number of bags sold.

[1]

(b) A bag of cement costs P92.50 .

Work out the cost of 236 bags of cement.

[2]

(c) The shop opens at 07 30 and closes at 17 15 .

Work out how long the shop is open.

Give your answer in hours and minutes.

Answer ..... , ... [2]

2

The table shows the number of books borrowed by 25 learners in one month.

books	0	1	2	3	4
frequency	4	6	8	5	2

(a) Write down the mode.

[1]

(b) Find the median.

[2]

(c) Calculate the mean number of books.

[3]

3

A rectangle has length 18.6 cm and width 7.4 cm.

(a) Calculate the area of the rectangle.

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

(b) Calculate the perimeter of the rectangle.

Answer ..... cm [2]

(c) Write your answer to part (a) correct to 3 significant figures.

Answer ..... cm^2 [1]

4

Tebogo invests P7500 at a rate of 6% per year simple interest.

(a) Calculate the interest he receives after 4 years.

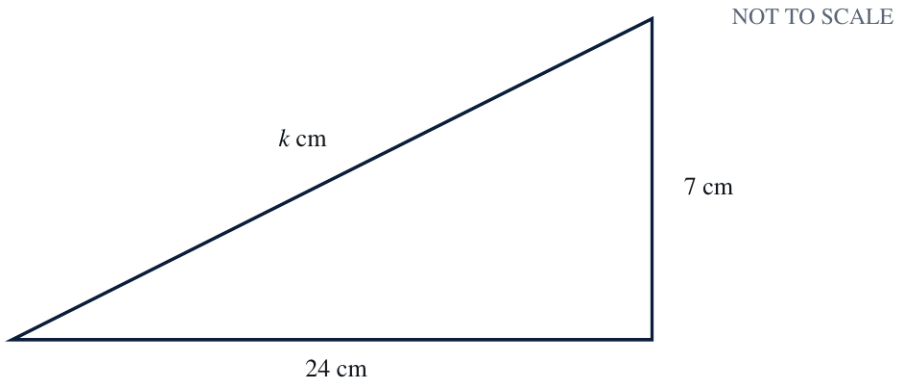
[2]

(b) Write down the total amount in his account after 4 years.

[1]

5

The diagram shows a right-angled triangle.



(a) Calculate the length k.

Answer ..... cm **[3]**

(b) Calculate the area of the triangle.

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

6

Solve these equations.

(a) $9x + 5 = 59$

[2]

(b) $\frac{x}{4} - 3 = 7$

[2]

7

A map has a scale of 1 : 25 000 .

(a) Two schools are 8 cm apart on the map.

Work out the actual distance between the schools in kilometres.

Answer ..... km [3]

(b) A river is 15 km long.

Work out the length of this river on the map.

Answer ..... cm [2]

8

A box contains 9 blue pens, 6 red pens and 5 black pens.

One pen is taken at random.

(a) Find the probability that the pen is red.

[1]

(b) Find the probability that the pen is not black.

[2]

(c) A pen is taken at random and replaced. This is done 300 times.

Work out the expected number of blue pens taken.

[2]

9

The nth term of a sequence is $4n - 1$.

(a) Write down the first three terms of the sequence.

[2]

(b) Work out the 50th term.

[1]

(c) Explain why 90 is not a term in this sequence.

[1]

10

A cylinder has radius 4 cm and height 15 cm.

(a) Calculate the volume of the cylinder.

Give your answer correct to the nearest whole number.

Answer ..... cm^3 [3]

(b) Calculate the curved surface area of the cylinder.

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

11

Three workers share a bonus in the ratio 3 : 4 : 8 .

The total bonus is P4500 .

(a) Work out the largest share.

[2]

(b) Write the smallest share as a percentage of the total bonus.

Answer ..... % [2]

12

A shop increases the price of a fridge from P3200 to P3680 .

(a) Calculate the percentage increase.

Answer ..... % [3]

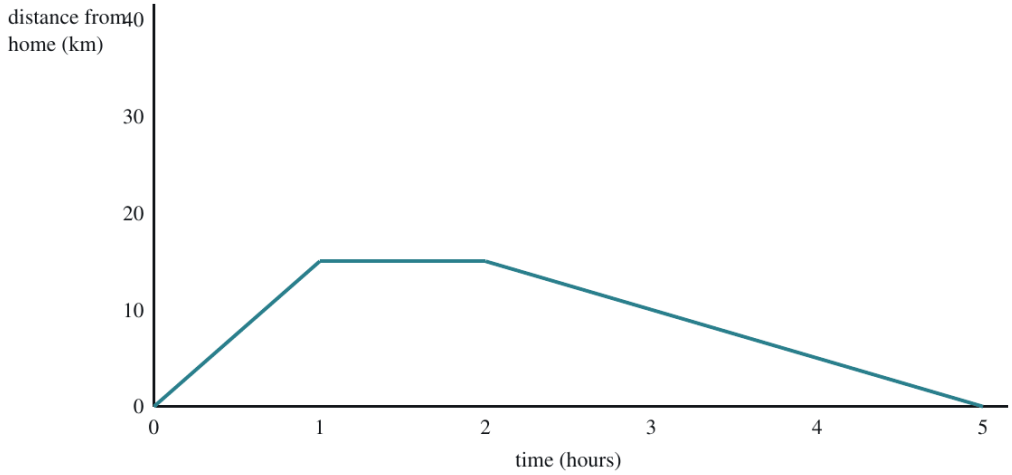
(b) The shop then reduces the new price by 25%.

Calculate the final price of the fridge.

[2]

13

The travel graph shows part of a journey made by a cyclist.



(a) Write down how long the cyclist rests for.

Answer ..... hour [1]

(b) Calculate the speed of the cyclist during the first hour.

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

14

$y = 2x + 3$

(a) Complete the table of values.

x	-2	0	1	3
y		3		9

[2]

(b) Write down the gradient of the line $y = 2x + 3$.

[1]

(c) Write down the coordinates of the point where the line crosses the *y*-axis.

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

15

A regular polygon has 9 sides.

(a) Calculate the size of each exterior angle.

Answer ..... ° [2]

(b) Calculate the size of each interior angle.

Answer ..... ° [1]

(c) A different regular polygon has an interior angle of 156°.

Work out the number of sides of this polygon.

[2]

16

(a) Work out $6.3 \times 10^6 - 4.8 \times 10^5$.

Give your answer in standard form.

[2]

(b) Work out the value of $\sqrt{2916}$.

[1]

(c) Write 0.0067 in standard form.

[1]

17

Simplify.

(a) $m^7 \div m^4$

[1]

(b) $5t^2 \times 4t^3$

[2]

18

Kagiso measures the masses, m kg, of 50 bags of grain.

The table shows the results.

mass (m kg)	$0 < m \leq 20$	$20 < m \leq 40$	$40 < m \leq 60$	$60 < m \leq 80$
frequency	9	16	15	10

(a) Write down the modal class.

[1]

(b) Calculate an estimate of the mean mass.

Answer ..... kg [4]

END OF PAPER