STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/03

Paper 3 (Core)

Mock Set 2

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 cafe in Gaborone records what it sells one morning.

(a) The cafe sells 145 cups of tea and 268 cups of coffee.

Work out the total number of cups sold.

[1]

(b) A cup of coffee costs P12.50 .

Work out the cost of 268 cups of coffee.

[2]

(c) The cafe opens at 06 45 and closes at 14 20 .

Work out how long the cafe is open.

Give your answer in hours and minutes.

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

2

The table shows the number of goals scored by a team in 20 matches.

goals	0	1	2	3	4
frequency	3	7	5	3	2

(a) Write down the mode.

[1]

(b) Find the median.

[2]

(c) Calculate the mean number of goals.

[3]

3

A rectangle has length 14.5 cm and width 8.2 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 2 significant figures.

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

4

Naledi invests P4000 at a rate of 5% per year simple interest.

(a) Calculate the interest she receives after 3 years.

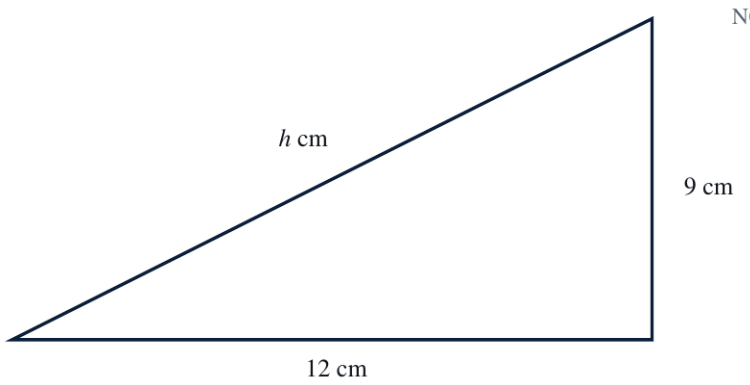
[2]

(b) Write down the total amount in her account after 3 years.

[1]

5

The diagram shows a right-angled triangle.



(a) Calculate the length h.

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

(b) Calculate the area of the triangle.

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

6

Solve these equations.

(a) $7x - 4 = 31$

[2]

(b) $\frac{x}{3} + 5 = 11$

[2]

7

A map has a scale of 1 : 50 000 .

(a) Two villages are 6 cm apart on the map.

Work out the actual distance between the villages in kilometres.

Answer ..... km [3]

(b) A road is 12 km long.

Work out the length of this road on the map.

Answer ..... cm [2]

8

A bag contains 8 red beads, 5 blue beads and 7 yellow beads.

One bead is taken at random.

(a) Find the probability that the bead is blue.

[1]

(b) Find the probability that the bead is not yellow.

[2]

(c) A bead is taken at random and replaced. This is done 200 times.

Work out the expected number of red beads taken.

[2]

9

The nth term of a sequence is $5n + 2$.

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

[2]

(b) Work out the 30th term.

[1]

(c) Explain why 100 is not a term in this sequence.

[1]

10

A cylinder has radius 7 cm and height 20 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

Kagiso, Boitumelo and Tebogo share the cost of a trip in the ratio 2 : 3 : 5 .

The total cost is P1800 .

(a) Work out the amount Tebogo pays.

[2]

(b) Write the amount Kagiso pays as a percentage of the total cost.

Answer ..... % [2]

12

A shop reduces the price of a jacket from P650 to P520 .

(a) Calculate the percentage reduction.

Answer ..... % [3]

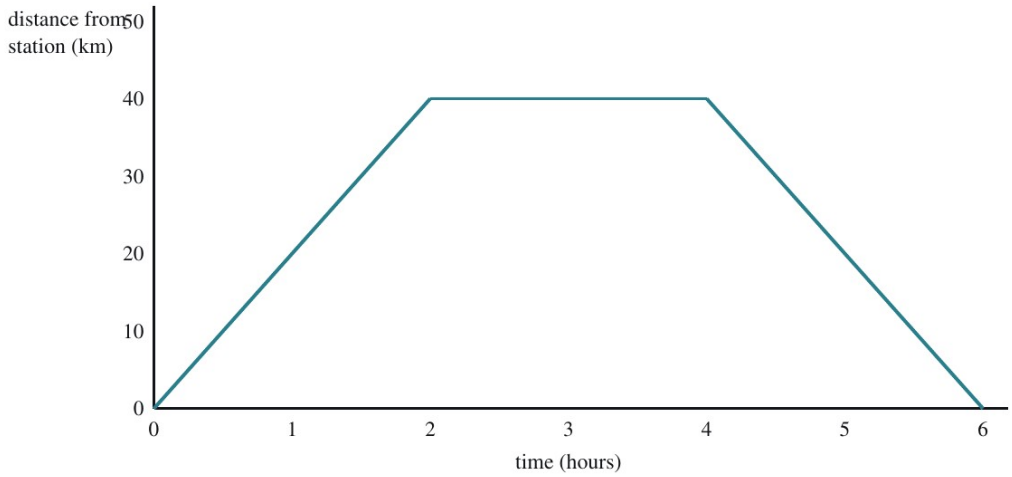
(b) The shop then increases the reduced price by 15%.

Calculate the new price of the jacket.

[2]

13

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



(a) Write down how long the bus stops for.

Answer ..... hours [1]

(b) Calculate the speed of the bus during the first 2 hours.

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

14

$y = 3x - 4$

(a) Complete the table of values.

x	-1	0	1	2
y		-4		2

[2]

(b) Write down the gradient of the line $y = 3x - 4$.

[1]

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

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

15

A regular polygon has 12 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 exterior angle of 24°.

Work out the number of sides of this polygon.

[2]

16

(a) Work out $2.4 \times 10^5 + 3.1 \times 10^4$.

Give your answer in standard form.

[2]

(b) Work out the value of $\sqrt{1764}$.

[1]

(c) Write 0.00042 in standard form.

[1]

17

Simplify.

(a) $p^5 \times p^3$

[1]

(b) $12a^6 \div 3a^2$

[2]

18

Bokamoso measures the heights, h cm, of 40 plants.

The table shows the results.

height (h cm)	$0 < h \leq 10$	$10 < h \leq 20$	$20 < h \leq 30$	$30 < h \leq 40$
frequency	6	14	13	7

(a) Write down the modal class.

[1]

(b) Calculate an estimate of the mean height.

Answer ..... cm [4]

END OF PAPER