STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/03

Paper 3 (Core)

Mock Set 5

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 tuck shop records its takings for one week.

(a) The takings were P2145.60 .

The shop is open 6 days that week.

Calculate the mean takings per day.

[2]

(b) Of the takings, 35% came from cold drinks.

Calculate the amount that came from cold drinks.

[2]

(c) The takings of P2145.60 were 12% more than the previous week.

Calculate the takings in the previous week.

[3]

2

The diagram shows the positions of two villages *A* and *B*.



(a) Measure the bearing of *B* from *A*.

Answer ..... ° [1]

(b) The bearing of *C* from *A* is 118°.

Work out the bearing of *A* from *C*.

Answer ..... ° [2]

(c) A third village *D* is due north of *A* and due west of *B*.

Write down the bearing of *D* from *A*.

Answer ..... ° [1]

3

1 pula is worth 0.074 US dollars.

(a) Change P5400 into US dollars.

[2]

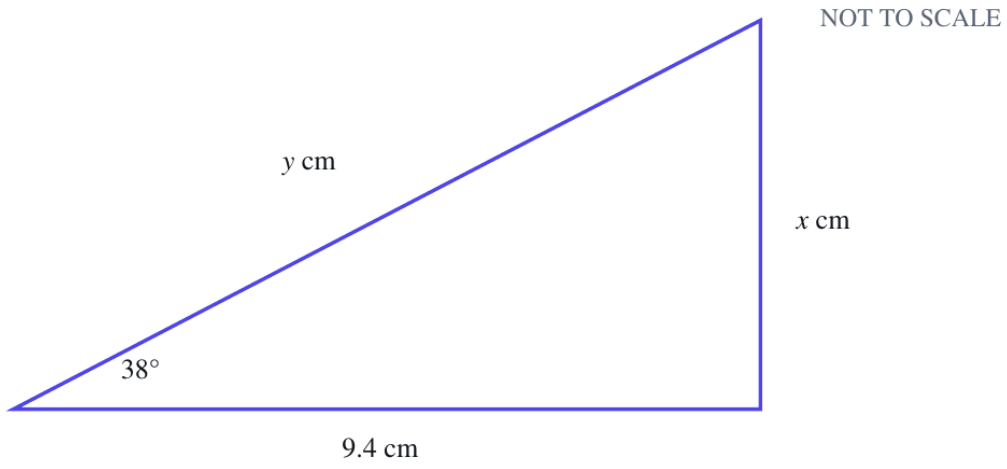
(b) Change $555 into pula.

Give your answer correct to the nearest pula.

[3]

4

The diagram shows a right-angled triangle.



(a) Calculate x.

Answer ..... cm [3]

(b) Calculate y.

Answer ..... cm [2]

5

Triangles PQR and PST are similar.

$PQ = 6$ cm, $PS = 15$ cm and $QR = 8$ cm.

(a) Work out the scale factor from triangle PQR to triangle PST.

[2]

(b) Work out the length ST.

Answer ..... cm [2]

(c) The area of triangle *PQR* is 22 cm^2.

Work out the area of triangle *PST*.

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

6

The pie chart shows how 720 learners travel to a college.

method	bus	walk	taxi	other
angle	150	120	60	30

(a) Work out the number of learners who travel by bus.

[2]

(b) Work out the percentage of learners who walk.

Answer ..... % [2]

7

Solve.

(a) $4(2x - 5) = 3x + 15$

[3]

(b) $\frac{3x}{4} = 12$

[2]

8

A rectangular tank has base 1.5 m by 0.8 m.

It contains water to a depth of 45 cm.

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

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

(b) 1 cubic metre = 1000 litres.

Calculate the number of litres of water in the tank.

Answer ..... litres [1]

9

The nth term of a sequence is $n^2 + 3$.

(a) Write down the first three terms.

[2]

(b) Work out the 12th term.

[1]

(c) One term of the sequence is 199.

Work out which term this is.

[2]

10

Kefilwe buys a laptop for P6800 .

Each year its value decreases by 20% of its value at the start of that year.

(a) Calculate the value of the laptop after 3 years.

[3]

(b) A different laptop cost P9000 and is now worth P5760 .

Calculate the overall percentage decrease in value.

Answer ..... % [3]

11

The table shows the marks of 40 learners in a test.

mark (m)	$0 < m \leq 20$	$20 < m \leq 40$	$40 < m \leq 60$	$60 < m \leq 80$
frequency	6	14	16	4

(a) Write down the modal class.

[1]

(b) Calculate an estimate of the mean mark.

[4]

12

A bag contains 5 red, 8 blue and 7 green marbles.

(a) One marble is taken at random.

Find the probability that it is red or green.

[2]

(b) A marble is taken at random and replaced. This is done 500 times.

Work out the expected number of blue marbles taken.

[2]

13

A regular polygon has an interior angle of 144°.

(a) Work out the number of sides.

[2]

(b) Work out the size of the angle at the centre of the polygon formed by joining two adjacent vertices to the centre.

Answer ..... ° [1]

14

(a) Work out $\frac{6.4\square^2 - 3.9}{\sqrt{12.25}}$.

Give your answer correct to 2 decimal places.

[2]

(b) Write 0.000 000 65 in standard form.

[1]

15

A car uses 1 litre of fuel for every 12.5 km travelled.

Fuel costs P16.40 per litre.

(a) Calculate the cost of the fuel for a journey of 450 km.

[3]

(b) The journey takes 5 hours 15 minutes.

Calculate the average speed for the journey.

Give your answer correct to 1 decimal place.

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

16

(a) Write the ratio 45 : 72 in its simplest form.

[2]

(b) Write the ratio 8 : 20 in the form 1 : n.

[1]

17

A bus leaves at 08 55 and arrives at 13 20 .

Work out the journey time.

Give your answer in hours and minutes.

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

18

A metal block has mass 4.2 kg and volume 600 cm^3.

(a) Calculate the density of the metal in g/cm^3.

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

(b) Calculate the mass of a 250 cm^3 block of the same metal.

Answer ..... g [1]

END OF PAPER