STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/01

Paper 1 (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 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 2050 - 375 .

[1]

(b) Work out 24 × 15 .

[1]

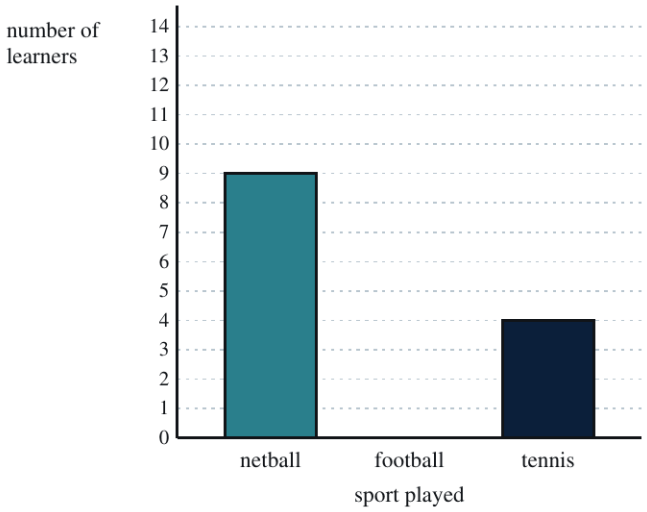
(c) Write down the square number that is between 20 and 30.

[1]

2

24 learners are asked which sport they play.

The bar chart shows some of the results.



(a) Complete the bar chart for the learners who play football.

[2]

(b) Write down the fraction of the learners who play tennis.

Give your answer in its simplest form.

[1]

3

(a) Write 0.375 as a fraction in its simplest form.

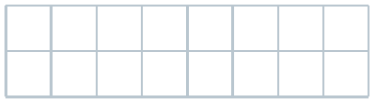
[1]

(b) Write $\frac{3}{8}$ as a percentage.

Answer ..... % [1]

4

(a) The grid is made of 16 equal squares.

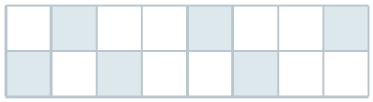


Shade $\frac{3}{8}$ of the squares on the grid.

[1]

(b) This grid is made of 16 equal regions.

6 of the regions are shaded.



Shade more regions so that $\frac{3}{4}$ of the total area is shaded.

[1]

5

(a) These are the first four terms of a sequence.

4 9 16 25

Write down the next term in the sequence.

[1]

(b) These are the first four terms of a different sequence.

100 84 68 52

Find the next two terms in the sequence.

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

6

Work out.

(a) $\frac{5}{6} - \frac{1}{3}$

[2]

(b) $\frac{2}{3} \div \frac{4}{9}$

[2]

7

Amo has $3k + 7$ pula.

Boitshepo has $5k - 2$ pula.

(a) Write down an expression for the total amount they have.

Give your answer in its simplest form.

[2]

(b) Write down an expression for how much more Boitshepo has than Amo.

Give your answer in its simplest form.

[2]

8

Write down the highest common factor (HCF) of 36 and 60.

[1]

9

(a) Work out the difference between 4^3 and 2^5.

[2]

(b) Write down the reciprocal of 10.

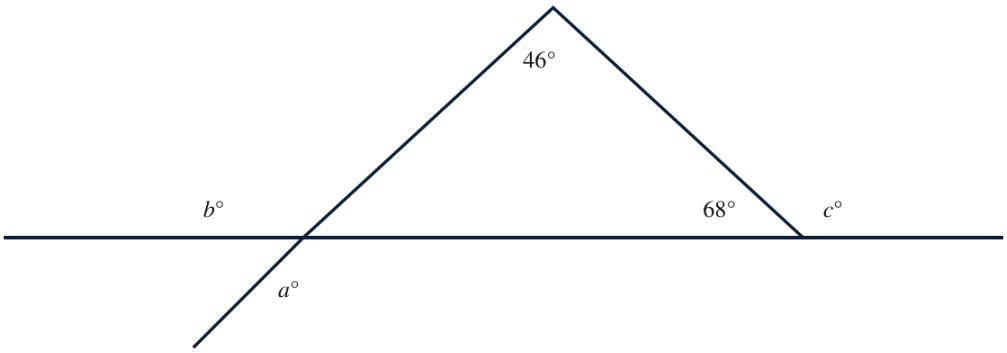
[1]

(c) Write down a prime number between 20 and 30.

[1]

10

NOT TO SCALE



The diagram shows a triangle drawn between two straight lines.

Work out the values of a, b and c.

[1]

[1]

[1]

[3]

11

Put one pair of brackets into each calculation to make it correct.

(a) 20 - 8 ÷ 4 + 2 = 5

[1]

(b) 12 - 3 × 2 + 4 = 22

[1]

12

Write $4^3 \times 4^2$ as a single power of 4.

[2]

13

Work out $\sqrt{0.81}$.

[1]

14

A clinic records the number of patients seen on each of 12 days.

52	38	47	61	35	44
59	41	36	50	48	33

Complete the stem-and-leaf diagram.

3	
4	
5	
6	

key : 4 | 1 represents 41 patients

[2]

15

A spinner has sections coloured red, blue, green and white.

The probability of each colour is shown in the table.

colour	red	blue	green	white
probability	0.3	0.25	0.15	

(a) Complete the table.

[2]

(b) The spinner is spun 400 times.

Work out the expected number of times it lands on red.

[1]

16

A cuboid measures 5 cm by 3 cm by 2 cm.

(a) Work out the volume of the cuboid.

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

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

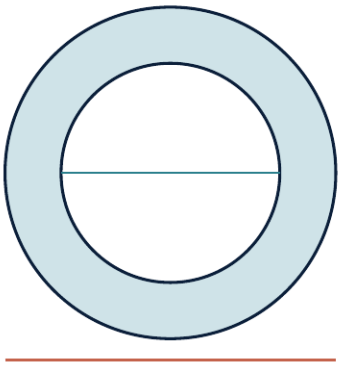
Answer ..... cm^2 [3]

17

The diagram shows two circles with the same centre.

The radius of the large circle is 9 cm and the radius of the small circle is 6 cm.

NOT TO SCALE



Work out the area of the shaded region.

Give your answer in terms of π.

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

18

Factorise completely.

$10y^2 - 25y$

[2]

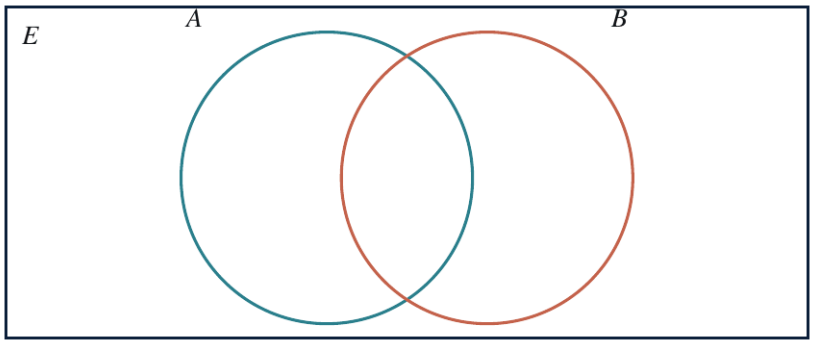
19

$\mathcal{E}$ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10}

A = {multiples of 3}

B = {odd numbers}

(a) Complete the Venn diagram.



[2]

(b) Find n($A \cup B$).

[1]

20

Solve the simultaneous equations.

You must show all your working.

$2x + y = 11$

$4x - y = 7$

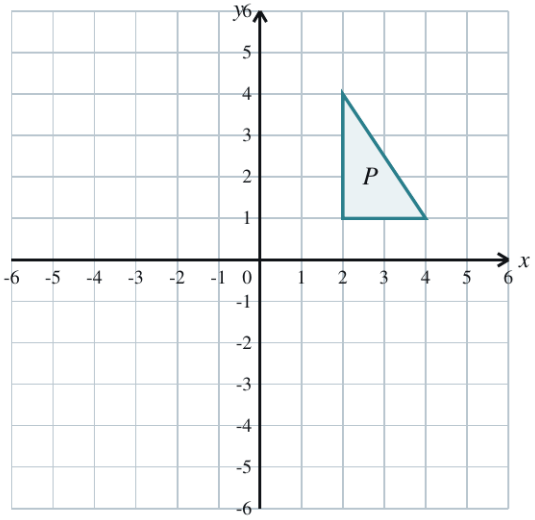
[1]

[1]

[4]

21

The diagram shows triangle *P* on a grid.



(a) Reflect triangle *P* in the *x*-axis.

[2]

(b) Translate triangle *P* by the vector $\begin{pmatrix} -5 \\ 1 \end{pmatrix}$.

[2]

(c) Rotate triangle *P* 90° clockwise about (0, 0).

[2]

22

(a) Expand and simplify.

$(2x - 1)(x + 6)$

[2]

(b) Solve.

$5(x + 3) = 40$

[2]

23

(a) A train travels 180 km in 3 hours.

Work out the average speed of the train.

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

(b) Make r the subject of the formula.

$C = 2\pi r$

[1]

24

Two friends share P1500 in the ratio 3 : 7 .

(a) Work out the smaller share.

[2]

(b) Write the smaller share as a percentage of P1500 .

Answer ..... % [2]

25

The price of a bicycle is P2400 .

(a) The price is reduced by 15%.

Work out the new price.

[2]

(b) Write 15% as a fraction in its simplest form.

[1]

26

A straight line passes through the points (1, 2) and (5, 14).

(a) Work out the gradient of the line.

[2]

(b) Write down the equation of the line in the form $y = mx + c$.

[1]

27

Write 62 000 in standard form.

[1]

END OF PAPER