STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/01

Paper 1 (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 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) Add 47 to 1265.

[1]

(b) Work out 480 ÷ 6 .

[1]

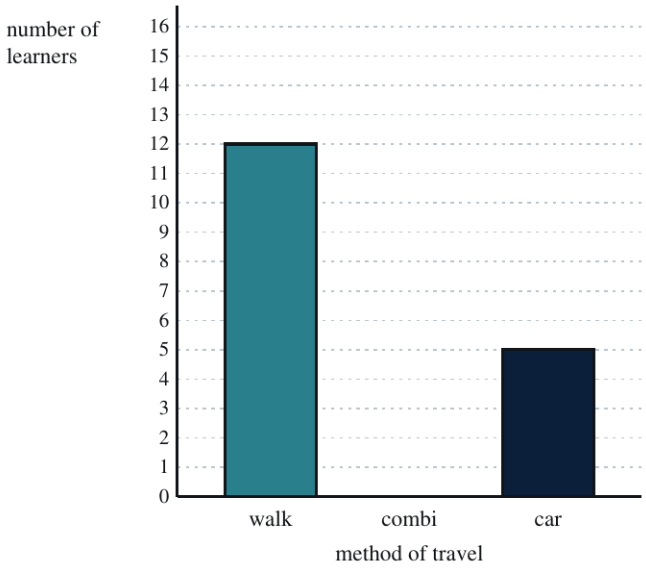
(c) Write down the factor of 24 that is nearest to 10.

[1]

2

30 learners are asked how they travel to school.

The bar chart shows some of the results.



(a) Complete the bar chart for the learners who travel by combi.

[2]

(b) Write down the mode.

[1]

3

(a) Write 0.6 as a fraction in its simplest form.

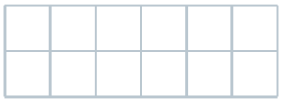
[1]

(b) Write $\frac{7}{20}$ as a percentage.

Answer ..... % [1]

4

(a) The grid is made of 12 equal squares.

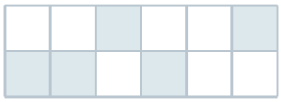


Shade $\frac{1}{4}$ of the squares on the grid.

[1]

(b) This grid is made of 12 equal regions.

5 of the regions are shaded.



Shade more regions so that $\frac{2}{3}$ of the total area is shaded.

[1]

5

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

3 12 48 192

Write down the term-to-term rule for this sequence.

[1]

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

46 39 32 25

Find the next two terms in the sequence.

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

6

Work out.

(a) $\frac{2}{5} + \frac{1}{4}$

[2]

(b) $\frac{3}{4} \times \frac{8}{9}$

[2]

7

Thabo has $4y - 1$ marbles.

Lesedi has $6 + 2y$ marbles.

(a) Write down an expression for the total number of marbles they have.

Give your answer in its simplest form.

[2]

(b) Thabo gives 3 of his marbles to Lesedi.

Write down an expression for the number of marbles Thabo now has.

Give your answer in its simplest form.

[1]

8

Write 84 as a product of its prime factors.

[2]

9

(a) Work out the sum of 3^3 and 5^2.

[2]

(b) Write down the reciprocal of $\frac{1}{8}$.

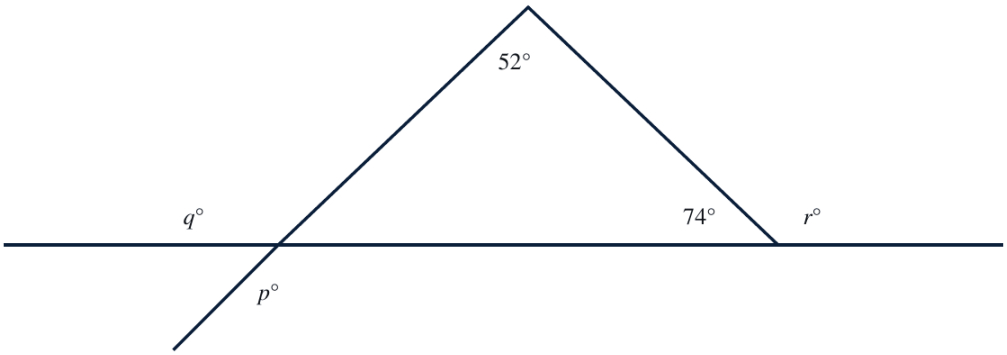
[1]

(c) Write down a square number that is between 40 and 60.

[1]

10

NOT TO SCALE



The diagram shows a triangle drawn between two straight lines.

Work out the values of p, q and r.

[1]

[1]

[1]

[3]

11

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

(a) 2 + 5 × 6 - 1 = 27

[1]

(b) 36 ÷ 4 + 8 - 2 = 1

[1]

12

Write 9 × 27 as a power of 3.

[2]

13

Work out $\sqrt{0.16}$.

[1]

14

A shop records the number of loaves of bread sold on each of 12 days.

34	18	27	41	16	22
39	25	13	30	28	17

Complete the stem-and-leaf diagram.

1	
2	
3	
4	

key : 2 | 5 represents 25 loaves

[2]

15

A bag contains red, blue and green counters only.

The probability of taking a red counter is 0.35 .

The probability of taking a blue counter is 0.2 .

(a) Find the probability of taking a green counter.

[2]

(b) There are 200 counters in the bag.

Work out the number of red counters.

[1]

16

A cuboid measures 4 cm by 2 cm by 3 cm.

(a) Work out the volume of the cuboid.

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

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

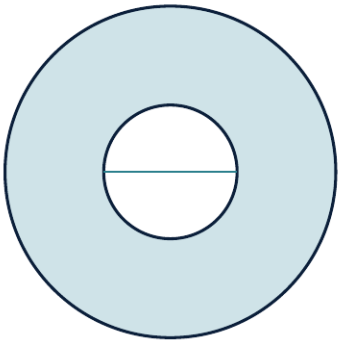
Answer ..... cm^2 [3]

17

The diagram shows two circles with the same centre.

The radius of the large circle is 10 cm and the radius of the small circle is 4 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.

$6x^3 - 15x$

[2]

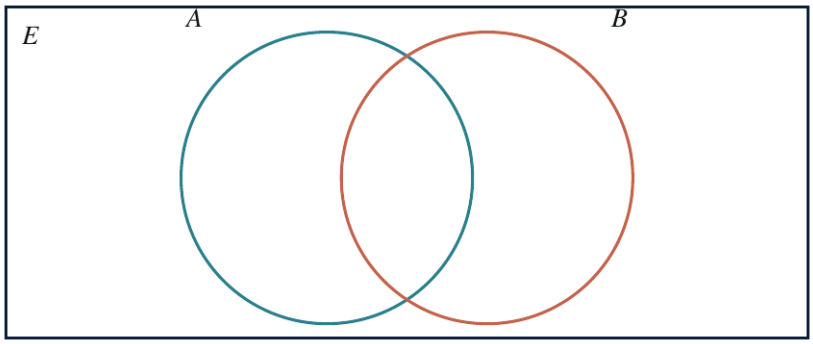
19

$\mathcal{E}$ = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12}

A = {factors of 12}

B = {even numbers}

(a) Complete the Venn diagram.



[2]

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

[1]

20

Solve the simultaneous equations.

You must show all your working.

$3x + 2y = 16$

$5x - 2y = 8$

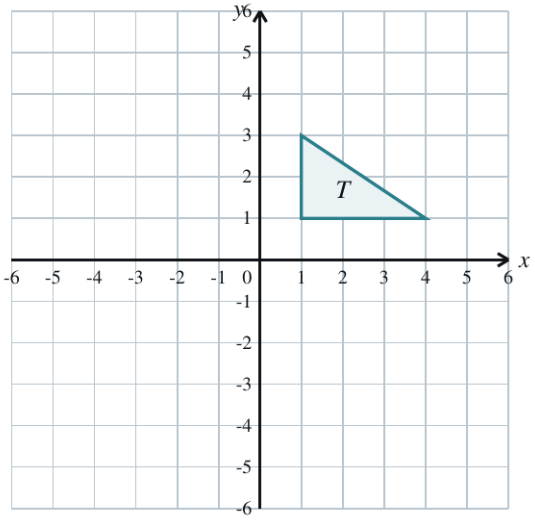
[1]

[1]

[4]

21

The diagram shows triangle T on a grid.



(a) Reflect triangle T in the y-axis.

[2]

(b) Translate triangle T by the vector $\begin{pmatrix} -2 \\ -4 \end{pmatrix}$.

[2]

(c) Enlarge triangle T with scale factor 2 and centre (0, 0).

[2]

22

(a) Expand and simplify.

$(x + 5)(2x - 3)$

[2]

(b) Solve.

$4(x - 2) = 20$

[2]

23

(a) A car travels 150 km in 2 hours.

Work out the average speed of the car.

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

(b) Make t the subject of the formula.

$d = st$

[1]

24

Kefilwe, Mpho and Naledi share P960 in the ratio 3 : 4 : 5 .

(a) Work out the amount Mpho receives.

[2]

(b) Work out how much more Naledi receives than Kefilwe.

[2]

25

The price of a bag of maize meal is P45 .

(a) The price increases by 20%.

Work out the new price.

[2]

(b) Write the increase of P9 as a fraction of the original price.

Give your answer in its simplest form.

[1]

26

A straight line passes through the points (0, 5) and (4, 13).

(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 0.0035 in standard form.

[1]

END OF PAPER