STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/01

Paper 1 (Core)

Mock Set 1

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) Subtract 8 from 1432.

[1]

(b) Divide 936 by 2.

[1]

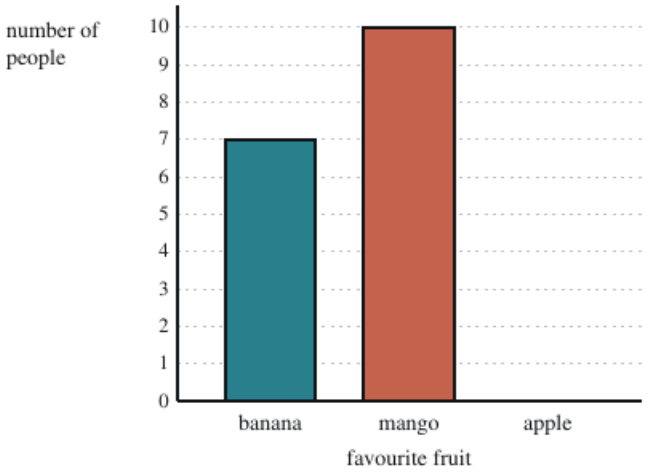
(c) Write down the multiple of 7 that is nearest to 30.

[1]

2

25 people are asked to name their favourite fruit.

The bar chart shows some of the results.



(a) Complete the bar chart for the people who say apple.

[2]

(b) How many more people say mango than say banana?

[1]

3

(a) Write 0.83 as a percentage.

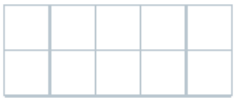
Answer ..... % [1]

(b) Write $\frac{9}{100}$ as a decimal.

[1]

4

(a) The grid is made of 10 equal squares.

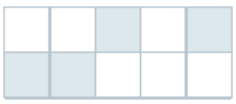


Shade $\frac{3}{10}$ of the squares on the grid.

[1]

(b) This grid is made of 10 equal regions.

4 of the regions are shaded.



Shade more regions so that $\frac{7}{10}$ of the total area is shaded.

[1]

5

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

8000 800 80 8

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

[1]

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

31 25 19 13

Find the next two terms in the sequence.

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

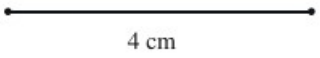
6

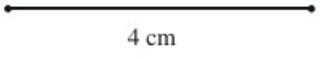
An isosceles triangle has a side length 4 cm and a side length 7 cm.

There are two possible triangles that can be drawn that are not congruent to each other.

Construct these two triangles.

One 4 cm side has been drawn for each of the triangles.





[4]

7

Maya has $5x + 3$ sweets.

Ben has $8 - x$ sweets.

(a) Write down an expression for the total number of sweets that Maya and Ben have.

Give your answer in its simplest form.

[2]

(b) Maya has more sweets than Ben.

Write down an expression for how many more sweets Maya has than Ben.

Give your answer in its simplest form.

[2]

8

Write down the two prime numbers that are greater than 30 but less than 40.

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

9

(a) Work out the difference between 6^2 and 2^4.

[2]

(b) Write down the reciprocal of 5.

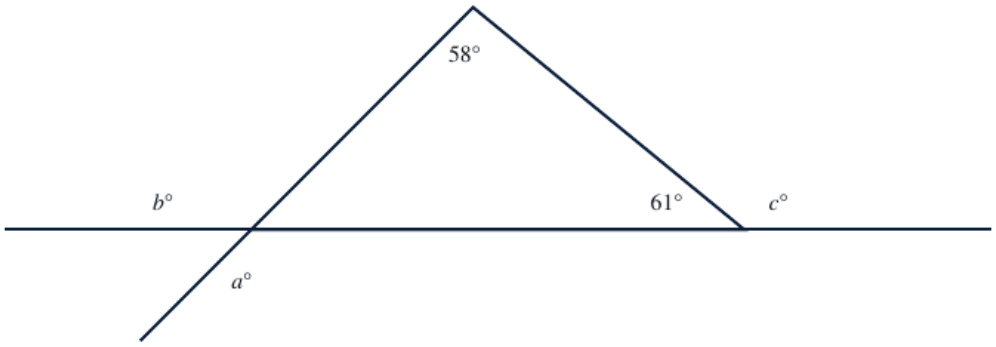
[1]

(c) Write down an irrational number that is between 5 and 6.

[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) 4 × 7 - 2 + 3 = 23

[1]

(b) 5 - 60 + 30 ÷ 15 = -1

[1]

12

Write 8 × 32 as a power of 2.

[2]

13

Work out $\sqrt{0.0049}$.

[1]

14

A phone records the number of messages Kabo receives on each of 12 days.

21	7	15	24	9	13
18	5	26	11	19	8

Complete the stem-and-leaf diagram.



[2]

15

The probability that Naledi wins a game is 0.8 .

(a) Find the probability that she does not win a game.

[1]

(b) Naledi plays 40 games.

Work out the number of games she is expected to win.

[1]

16

A cube has volume 27 cm^3.

On the 1 cm^2 grid, draw a net for this cube.

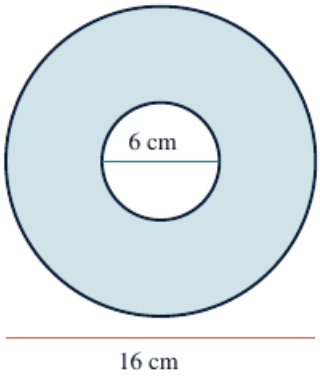


[3]

17

The diagram shows two circles.

NOT TO SCALE



The small circle has diameter 6 cm.

The large circle has diameter 16 cm.

Work out the shaded area.

Give your answer in terms of π.

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

18

Factorise.

$8x^3 - 12x$

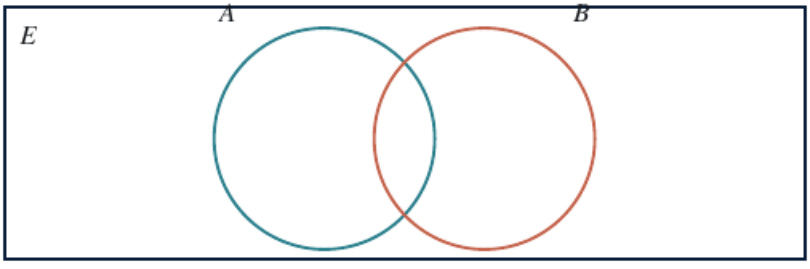
[2]

19

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

$A = \{\text{multiples of 4}\}$

$B = \{\text{multiples of 6}\}$



(a) Complete the Venn diagram.

[2]

(b) Write down n($A \cup B$).

[1]

20

Solve the simultaneous equations.

$-3x - 5y = 2$

$4x + 6y = -4$

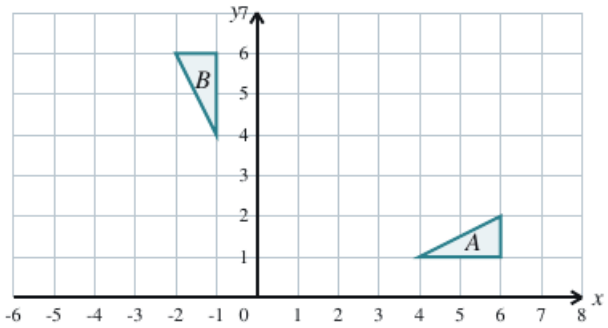
[1]

[1]

[4]

21

The diagram shows two triangles, A and B, on a 1 cm^2 grid.



(a) Describe fully the single transformation that maps triangle A onto triangle B.

[1]

[3]

(b) On the grid, draw the image of triangle B after a rotation 180°, centre (-2, 4).

[2]

(c) Triangle A is reflected in the line $x = 7$.

Work out the coordinates of the vertices of triangle A, after this reflection.

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

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

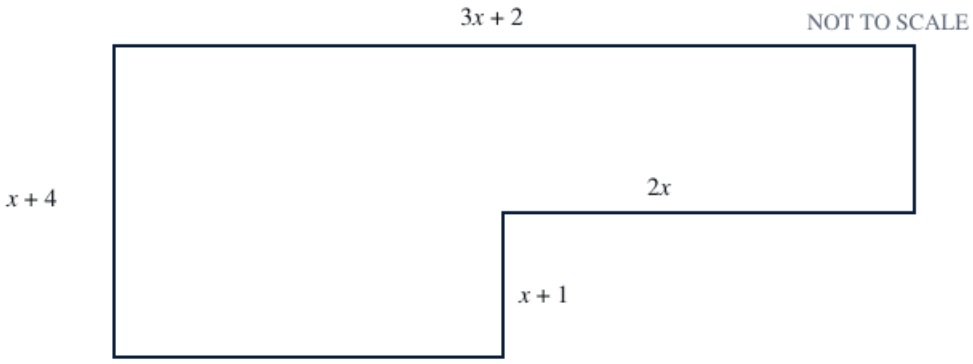
Answer (..... , ...) [3]

22

(a) Expand the brackets and simplify.

$(3x + 2)(x + 4)$

[2]



Find an expression for the area of this shape.

Give your answer in its simplest form.

[3]

23

The length, l metres, of a rope is 24.6 m, correct to the nearest 20 centimetres.

Complete this statement about the value of l.

..... ≤ l < .....

[2]

24

Complete these statements.

Give your answers in standard form.

(a) 3.6 km is the same as ..... cm.

[2]

(b) 40 cm^3 is the same as ..... litres.

[2]

25

By writing each number in the calculation correct to 1 significant figure, work out an estimate for the value of

$$\frac{0.38 \times 41.6}{19.2}.$$

[2]

26

Work out $2\frac{2}{5} \times 1\frac{7}{8}$.

Give your answer as a mixed number in its simplest form.

[3]

27

(a) A teacher asks a student to make x the subject of the formula $y = \frac{x}{4} + 3$.

Their working is shown in the box below, but it is not correct.

$y = \frac{x}{4} + 3$	line A
$4y = x + 3$	line B
$4y - 3 = x$	line C
$x = 4y - 3$	line D

Complete this statement.

Line ..... is not correct because .....

.....

[1]

(b) Make q the subject of the formula.

$B = qm^2$

[1]

END OF PAPER