STADIRA TRAINING INSTITUTE

MATHEMATICS PRACTICE PAPERS

Candidate name	
Centre number	Candidate number

MATHEMATICS

0580/01

Paper 1 (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 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 $3.6 + 0.45$.

[1]

(b) Work out 0.7×0.08 .

[1]

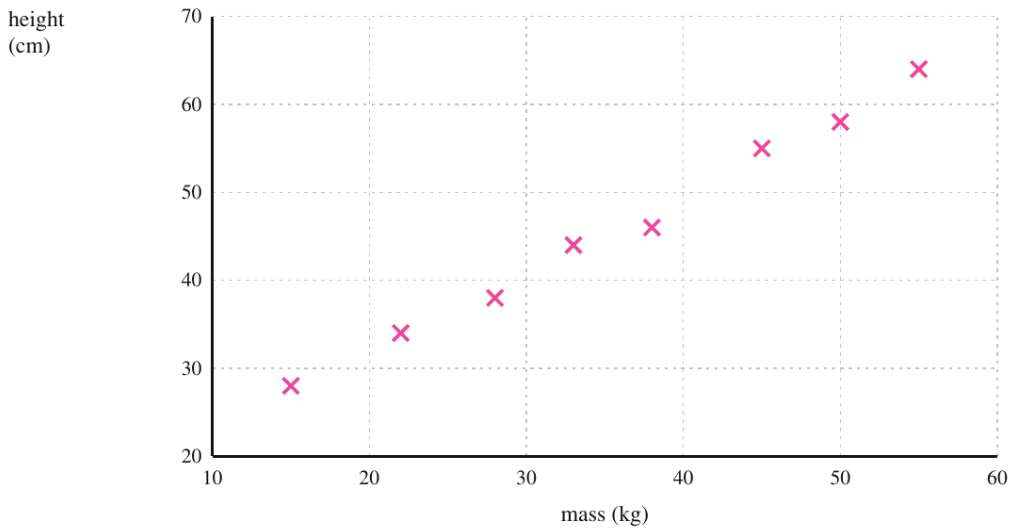
(c) Write these numbers in order, smallest first.

$0.62 \qquad \frac{3}{5} \qquad 58\%$

[2]

2

The scatter diagram shows the mass and the height of 8 dogs.



(a) Describe the correlation shown.

[1]

(b) A ninth dog has mass 40 kg.

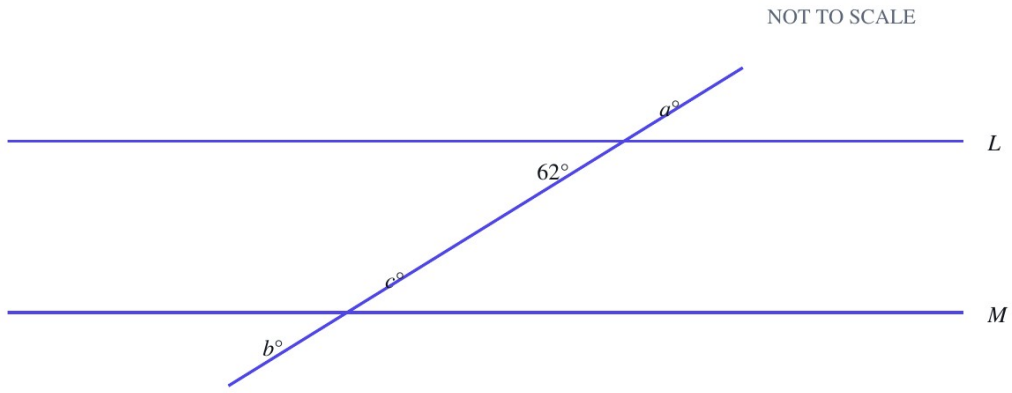
Estimate the height of this dog.

Answer ..... cm [1]

(c) Explain why it would not be sensible to use this scatter diagram to estimate the height of a dog of mass 90 kg.

[1]

3



The diagram shows two parallel lines *L* and *M* crossed by a straight line.

(a) Write down the value of *a*.

Give a reason for your answer.

[2]

(b) Write down the value of b.

[1]

(c) Work out the value of c.

[1]

4

120 learners were asked how they travel to school.

The results are shown in the table.

method	walk	bus	car	bicycle
number of learners	50	40	20	10

(a) A pie chart is drawn to show this information.

Work out the angle of the sector for "walk".

Answer ..... ° [2]

(b) Work out the angle of the sector for "bicycle".

Answer ..... ° [1]

5

Work out.

(a) $1\frac{1}{2} + \frac{3}{4}$

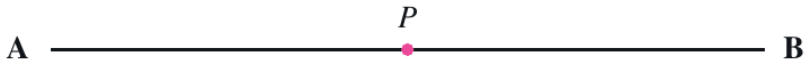
[2]

(b) $\frac{5}{8} \div \frac{15}{16}$

[2]

6

The line *AB* is drawn below.



(a) Using compasses and a ruler only, construct the perpendicular bisector of *AB*.

Leave in your construction arcs.

[2]

(b) Mark clearly with a cross the point on *AB* that is 3 cm from *A*.

[1]

7

A recipe for 12 biscuits uses 180 g of flour and 90 g of butter.

(a) Work out the mass of flour needed for 30 biscuits.

Answer ..... g [2]

(b) Nomsa has 300 g of butter and plenty of flour.

Work out the greatest number of biscuits she can make.

[2]

8

(a) Write 108 as a product of its prime factors.

[2]

(b) Find the highest common factor (HCF) of 108 and 72.

[2]

9

Simplify.

(a) $5p - 3q - 8p + 7q$

[2]

(b) $\frac{20x^3}{4x}$

[2]

10

A map is drawn to a scale of 1 cm to 4 km.

(a) Two towns are 13.5 cm apart on the map.

Work out the actual distance between the towns.

Answer ..... km [2]

(b) A lake is 30 km long.

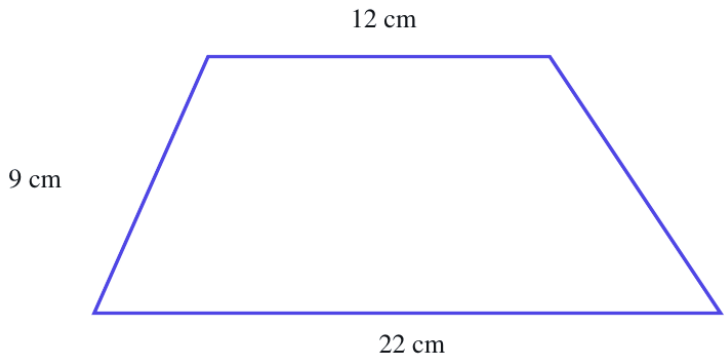
Work out its length on the map.

Answer ..... cm [2]

11

The diagram shows a trapezium.

NOT TO SCALE



(a) Work out the area of the trapezium.

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

(b) The trapezium is enlarged with scale factor 3.

Work out the area of the enlarged trapezium.

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

12

Solve.

(a) $\frac{x}{5} + 4 = 9$

[2]

(b) $6 - 2x = 14$

[2]

13

A fair six-sided dice is rolled once.

(a) Find the probability of rolling a factor of 6.

[2]

(b) The dice is rolled 300 times.

Work out the expected number of times a 5 is rolled.

[1]

14

These are the first four terms of a sequence.

2 6 12 20

(a) Write down the next term.

[1]

(b) Explain how you found your answer.

[1]

15

A cylinder has radius 3 cm and height 10 cm.

Work out the volume of the cylinder.

Give your answer in terms of π.

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

16

Solve the simultaneous equations.

You must show all your working.

$3x + y = 14$

$x + y = 6$

[1]

[1]

[3]

17

(a) Expand and simplify.

$(x - 3)(x + 8)$

[2]

(b) Factorise.

$x^2 - 49$

[1]

18

The table shows the number of goals scored in 20 football matches.

goals	0	1	2	3
frequency	4	7	6	3

(a) Write down the range.

[1]

(b) Work out the mean number of goals.

[3]

19

A straight line has equation $2y = 6x - 10$.

(a) Write the equation in the form $y = mx + c$.

[2]

(b) Write down the gradient of the line.

[1]

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

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

20

A shop reduces all prices by 30% in a sale.

A radio has a sale price of P210 .

(a) Work out the price of the radio before the sale.

[3]

(b) Write 30% as a fraction in its simplest form.

[1]

21

The bearing of *B* from *A* is 070°.

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

Answer ..... ° [2]

22

1 pula is worth 1.35 rand.

(a) Change P240 into rand.

Answer ..... rand [2]

(b) Change 675 rand into pula.

[2]

23

By writing each number correct to 1 significant figure,

estimate the value of

$$\frac{4.87 \times 19.6}{0.51}$$

[2]

END OF PAPER