Cambridge Assessment International Education

Cambridge IGCSE™

CANDIDATE NAME									
CENTRE NUMBER						CANDIDATE NUMBER				

MATHEMATICS **0580/13**

Paper 1 (Core) **October/November 2022**

1 hour

You must answer on the question paper.

You will need: Geometrical instruments

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 an erasable pen or correction fluid.
- Do **not** write on any bar codes.
- You should use a calculator where appropriate.
- You may use tracing paper.
- You must show all necessary working clearly.
- Give non-exact numerical answers correct to 3 significant figures, or 1 decimal place for angles in degrees, unless a different level of accuracy is specified in the question.
- For π, use either your calculator value or 3.142.

INFORMATION

- The total mark for this paper is 56.
- The number of marks for each question or part question is shown in brackets [ ].

This document has **12** pages.

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1 Complete this shopping bill.

View solution

2.25 kg apples at \$2.80 per kg = \$ .....

3.2 kg carrots at \$0.65 per kg = \$ .....

Total = \$ ..... [3]

2 Sunita is 3 years and 4 months old.

View solution

Work out her age in months.

..... months [1]

3

120 121 149 164 216

From this list, write down

(a) a square number,

View solution

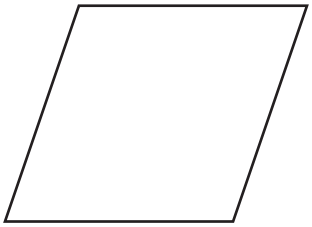
..... [1]

(b) a cube number.

View solution

..... [1]

4 The diagram shows a shape with four sides of equal length.



(a) Write down the mathematical name of this shape.

View solution

..... [1]

(b) Write down the order of rotational symmetry of this shape.

View solution

..... [1]

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5 The stem-and-leaf diagram shows the marks scored by each of 35 students in a science test.

2	7 8 8 9
3	0 2 2 4 5 7 8 9
4	1 1 2 3 4 5 7 8 9 9
5	0 2 3 5 5 5 6 7 7 8
6	1 2 4

Key: 2 | 7 represents 27

(a) Find the range.

View solution

..... [1]

(b) Find the mode.

View solution

..... [1]

(c) Find the median.

View solution

..... [1]

6 Marco starts work at 20 45 and finishes at 02 08 the next day.

View solution

Find the length of time, in hours and minutes, he works.

..... h ..... min [1]

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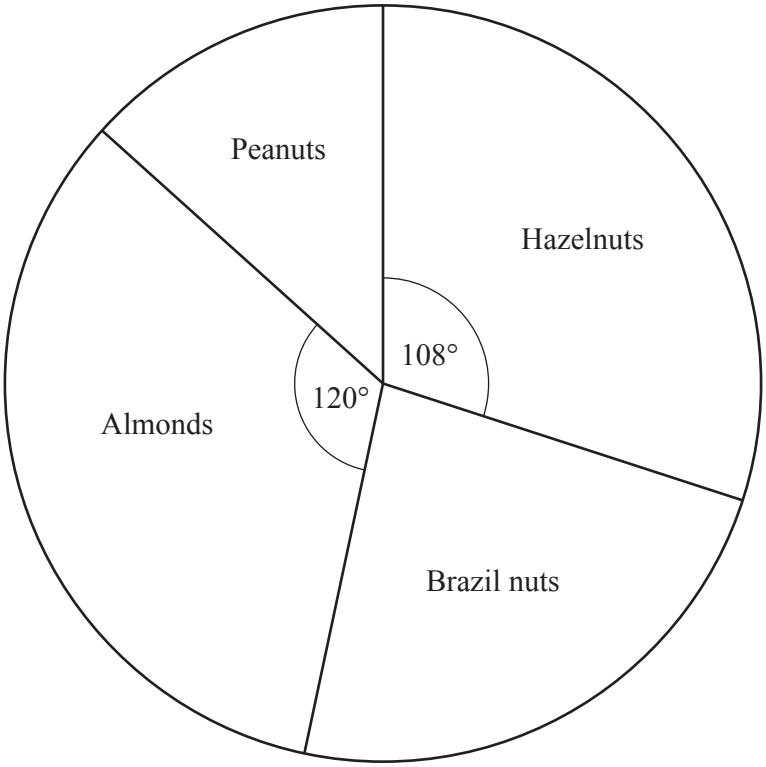
7 Jo counts the number of each type of nut in a bag.
The pie chart shows the results.



(a) Measure the size of the angle for the peanuts.

View solution

..... [1]

(b) What fraction of the nuts are almonds?
Give your answer in its simplest form.

View solution

..... [1]

(c) There are 45 hazelnuts in the bag.

Calculate the total number of nuts in the bag.

View solution

..... [2]

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8 Calculate.

$$\sqrt{15} + \frac{4.8}{2.2}$$

View solution

..... [1]

9 Nerina invests \$5400 at a rate of r% per year simple interest.
At the end of 3 years, the total interest earned is \$429.30 .

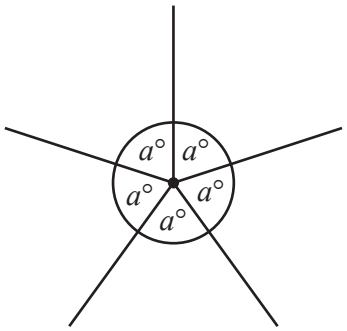
View solution

Calculate the value of r.

$r =$ ..... [2]

10

View solution



Give the geometrical reason why the value of a is 72.

.....

..... [1]

11 **(a)** Expand the brackets and simplify.

View solution

(i) $3(2d-3)+4(d+1)$

..... [2]

View solution

(ii) $(x-4)(x-3)$

..... [2]

View solution

(b) Factorise $8p-3pq$.

..... [1]

View solution

12 **Without using a calculator**, work out $\frac{5}{7}-\frac{2}{3}$.
You must show all your working and give your answer as a fraction in its simplest form.

..... [2]

View solution

13 x is an integer where $x > -4$ and $x \leqslant 2$.

Write down all the possible values of x.

..... [2]

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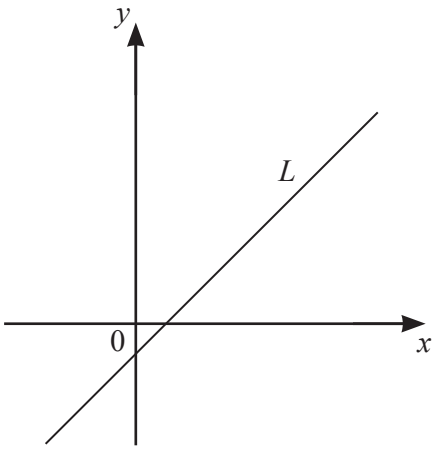
14

View solution



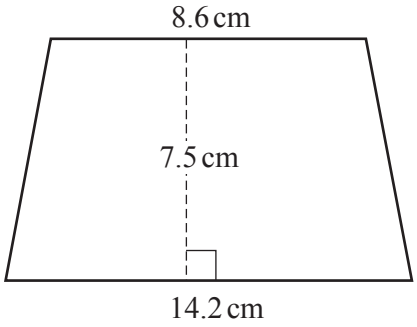
Explain why the equation of line L in the diagram cannot be $y = x + 2$.

.....

..... [1]

15

View solution



NOT TO SCALE

Work out the area of the trapezium.

..... cm^2 [2]

16 The circumference of a circular pond is 130 cm.

Calculate the radius of the pond.

View solution

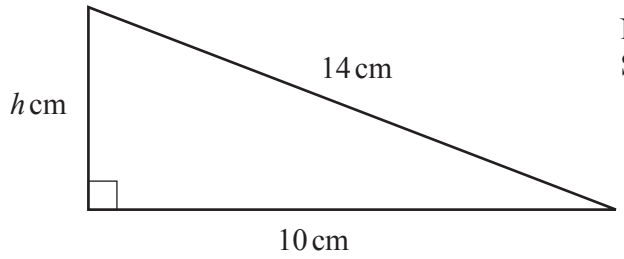
..... cm [2]

17 Write 0.007 in standard form.

View solution

..... [1]

18



NOT TO SCALE

The diagram shows a right-angled triangle.

(a) Calculate the value of h.

View solution

$h =$ ..... [3]

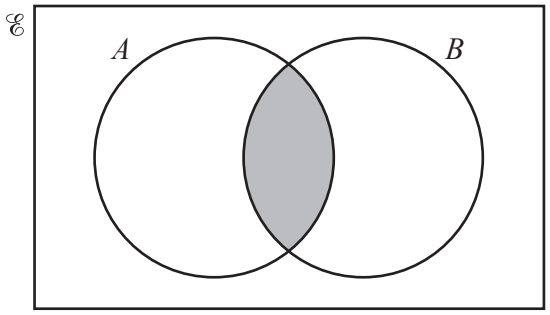
(b) Find the perimeter of this triangle.

View solution

..... cm [1]

19 (a)

View solution

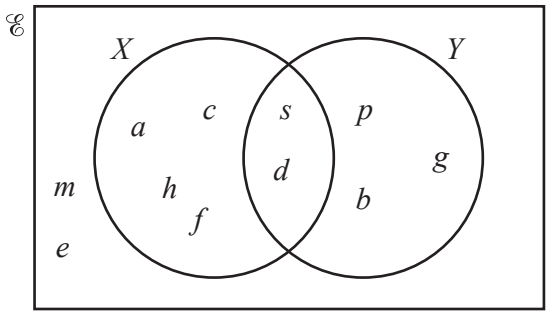


Use set notation to describe the shaded region in the Venn diagram.

..... [1]

(b)

View solution



(i) List the elements of set Y.

..... [1]

(ii) Write down $n(X \cup Y)$.

View solution

..... [1]

20 Solve the simultaneous equations.

View solution

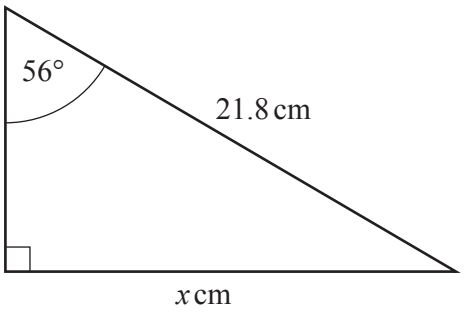
$$3x - 2y = 21$$
$$5x + 2y = 51$$

$x =$ .....

$y =$ ..... [2]

21

View solution



NOT TO SCALE

The diagram shows a right-angled triangle.

Calculate the value of x.

$x =$ ..... [2]

22 (a) $120 = 2^m \times 3 \times 5$

View solution

Find the value of m.

$m =$ ..... [1]

(b) One traffic light changes to red every 120 seconds.
Another traffic light changes to red every 144 seconds.
Both change to red at 10 00.

View solution

Find the time at which they next change to red together.

..... [3]

23 Make m the subject of the formula $q = \frac{m}{7} + r$.

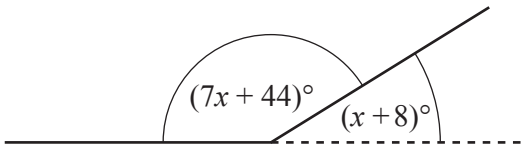
View solution

$m =$ ..... [2]

Question 24 is printed on the next page.

24

View solution



NOT TO SCALE

The diagram shows two sides of a regular polygon.
The interior angle of the polygon is $(7x + 44)°$ and the exterior angle is $(x + 8)°$.

Find the number of sides of this polygon.

..... [4]

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