

Candidate Marks Report

Series : 6 2026

This candidate's script has been assessed using On-Screen Marking. The marks are therefore not shown on the script itself, but are summarised in the table below.

Centre No :	PK470	Assessment Code :	4024
Candidate No :	58	Component Code :	12
Candidate Name :	HUZAIFA UMER,		

In the table below 'Total Mark' records the mark scored by this candidate.
'Max Mark' records the Maximum Mark available for the question.

Paper:	4024/12	
Paper	90 / 100	
Total:		
Question	Total / Max Mark Mark	
1a	1 / 1	
1b	1 / 1	
2a	1 / 1	
2b	1 / 1	
3a	2 / 2	
3b	2 / 2	
4a	1 / 1	
4b	2 / 2	
5a	3 / 3	
5b	1 / 1	
6	3 / 3	
7	3 / 3	
8a	1 / 1	
8b	1 / 1	
8c	1 / 1	
9	4 / 4	
10	2 / 2	
11a	2 / 2	
11b	2 / 2	
12	2 / 2	
13a	1 / 1	
13bi	1 / 1	
13bii	2 / 2	
13c	3 / 3	
14a	1 / 1	
14b	1 / 1	
14c	2 / 2	
15ai	1 / 2	
15aii	1 / 1	
15b	1 / 2	
15c	2 / 3	
16a	3 / 3	

16bi	1	/ 2
16bii	1	/ 1
17a	2	/ 4
17b	3	/ 3
17c	0	/ 2
18a	2	/ 2
18b	3	/ 3
19	6	/ 6
20a	1	/ 1
20b	1	/ 1
20c	3	/ 3
21	3	/ 4
22a	3	/ 3
22b	1	/ 1
23	3	/ 3
24	2	/ 3



Cambridge O Level

CANDIDATE
NAME

Huzaifa Umer

CENTRE
NUMBER

P K 4 7 0

CANDIDATE
NUMBER

0 0 5 8

MATHEMATICS (SYLLABUS D)

4024/12

Paper 1 Non-calculator

May/June 2026

2 hours

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. Do **not** use correction fluid or tape.
- Do **not** write on any bar codes.
- Calculators must **not** be used in this paper.
- You may use tracing paper.
- You must show all necessary working clearly.

INFORMATION

- The total mark for this paper is 100.
- The number of marks for each question or part question is shown in brackets [].

2 0 6

This document has 20 pages. Any blank pages are indicated.



List of formulas

Area, A , of triangle, base b , height h .

$$A = \frac{1}{2}bh$$

Area, A , of circle of radius r .

$$A = \pi r^2$$

Circumference, C , of circle of radius r .

$$C = 2\pi r$$

Curved surface area, A , of cylinder of radius r , height h .

$$A = 2\pi rh$$

Curved surface area, A , of cone of radius r , sloping edge l .

$$A = \pi rl$$

Surface area, A , of sphere of radius r .

$$A = 4\pi r^2$$

Volume, V , of prism, cross-sectional area A , length l .

$$V = Al$$

Volume, V , of pyramid, base area A , height h .

$$V = \frac{1}{3}Ah$$

Volume, V , of cylinder of radius r , height h .

$$V = \pi r^2 h$$

Volume, V , of cone of radius r , height h .

$$V = \frac{1}{3}\pi r^2 h$$

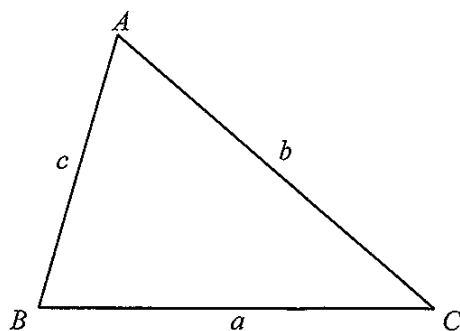
Volume, V , of sphere of radius r .

$$V = \frac{4}{3}\pi r^3$$

For the equation $ax^2 + bx + c = 0$, where $a \neq 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

For the triangle shown,



$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$a^2 = b^2 + c^2 - 2bc \cos A$$

$$\text{Area} = \frac{1}{2}ab \sin C$$





Calculators must **not** be used in this paper.

1 Write down the value of

(a) 5^3 $\approx 5 \times 5 \times 5$
 $= 125$

..... 125 [1]

(b) $\sqrt{121}$.

..... 11 [1]

2 Buses travel from the city centre to the airport.

(a) A bus leaves the city centre at 1005.

The bus journey from the city centre to the airport takes 1 hour 25 minutes.

Work out the time the bus arrives at the airport.

$$\begin{array}{r} 10 \ 05 \\ + 01 \ 25 \\ \hline 11 \ 30 \end{array}$$

..... 1130 [1]

(b) Another bus arrives at the airport at 1620.

This bus journey from the city centre to the airport takes 1 hour 35 minutes.

Work out the time this bus leaves the city centre.

$$16 \ 20 - 1 \ \text{hour}$$

..... ~~145~~ 1445 [1]

$$= 15 \ 20 - 35$$

$$= 14 \ 45$$



- 3 These are the scores for each of 10 children in a spelling test.

7 10 10 15 7 8 11 7 15 8

- (a) Work out the median.

$$5, 5, 7, 7, 7, 10, 10, 11, 13, 15$$

$$\downarrow$$

$$\frac{17}{2} = 8.5$$

8.5

[2]

- (b) Work out the mean.

$$(5+5) + (7+7+7) + (10+10) + (11) + (13) + (15)$$

$$= \frac{10 + 21 + 20 + 11 + 13 + 15}{10} = \frac{90}{10} = 9$$

[2]

- 4 Ana has 60 cards.
Each card is red or green.

- (a) The ratio red cards : green cards = 2 : 1.

Show that there are 20 green cards.

Green cards	total cards
1	3
x	60

$$3x = 60$$

$$x = \frac{60}{3}$$

$$x = 20$$

[1]

- (b) Each of the 60 cards is a square or a triangle.
The ratio square cards : triangle cards = 5 : 1.

There are 16 green square cards.

Complete the two-way table.

	red	green	total
square	34	16	50
triangle	6	4	10
total	40	20	60

$$x = \frac{60 \times 5}{6}$$

$$x = 50$$

$$50$$

$$- 16$$

$$\hline 34$$

$$80$$

$$\times 35$$

$$\hline 400$$

$$2400$$

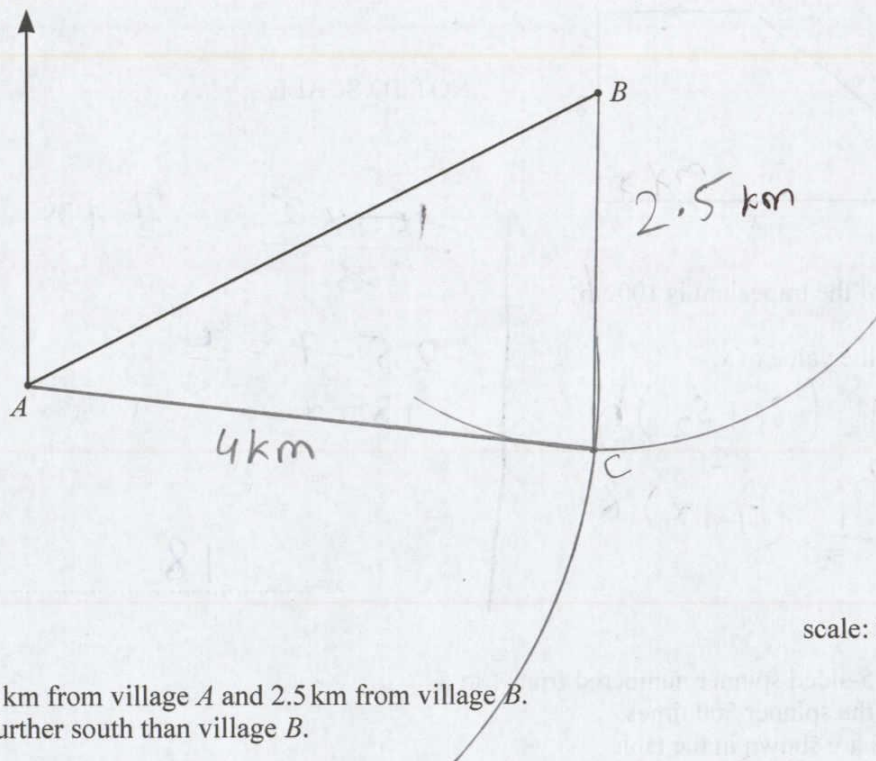
$$\hline 2800$$

[2]



- 5 The scale drawing shows the positions of two villages, *A* and *B*.
The scale is 2 cm to 1 km.

North



cm	km
2	1
x	4

$$x = 8$$

cm	km
2	1
x	2.5

$$x = 5$$

scale: 2 cm to 1 km

Farm *C* is 4 km from village *A* and 2.5 km from village *B*.
Farm *C* is further south than village *B*.

- (a) Using a ruler and compasses only, construct the position of farm *C*. [3]

- (b) Measure the bearing of farm *C* from village *A*.

~~092°~~ 097° [1]

- 6 Pran invests \$2000 in a savings account.
The account pays simple interest at a rate of 3.5% per year.

Calculate the value of the investment at the end of 4 years.

$$I = \frac{PRT}{100}$$

$$I = \frac{2000 \times 3.5 \times 4}{100}$$

$$I = 80 + 3.5$$

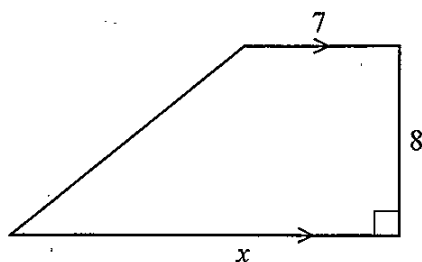
$$I = 280$$

$$\begin{aligned} \text{Value of investment} &= 2000 + 280 \\ &= 2280 \end{aligned}$$

\$ 2280 [3]



- 7 The diagram shows a trapezium.
All the lengths are in centimetres.



NOT TO SCALE

The area of the trapezium is 100 cm^2 .

Work out the value of x .

$$A = \frac{1}{2} (s_1 + s_2) h$$

$$100 = \frac{1}{2} (7 + x) 8$$

$$A = \frac{1}{2} (s_1 + s_2) h = \frac{1}{2} (7 + 18) (8)$$

$$= 25 \times 4$$

$$= 100$$

$$\frac{100 \times 2}{8} = 7 + x$$

$$25 - 7 = x$$

$$18 = x$$

$$x = 18 \quad [3]$$

- 8 Leo has a 5-sided spinner numbered from 1 to 5.
Leo spins the spinner 500 times.
His results are shown in the table.

number on spinner	1	2	3	4	5
frequency	105	96	95	104	100

- (a) Leo says that the results show that the spinner is fair.

Explain why he is correct.

As the frequency of each value is ~~slightly~~ close to each other meaning it is fair. vero ✓ [1]

- (b) Find the relative frequency of the spinner landing on 5.

$$\frac{100}{500} \quad [1]$$

- (c) Mary spins this spinner 100 times.

Find the number of times Mary should expect the spinner to land on 5.

$$\begin{array}{r|l} 500 & x = \frac{100 \times 100}{500} \\ 100 & x = 20 \end{array} \quad 20 \quad [1]$$

9 Work out.

$$1\frac{2}{3} \times \frac{9}{10} + 2\frac{1}{5}$$

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

$$= \frac{5}{3} \times \frac{9}{10} + \frac{11}{5}$$

$$= \frac{15}{10} + \frac{11}{5}$$

$$= \frac{15 + 22}{10}$$

$$= \frac{37}{10} = 3\frac{7}{10}$$

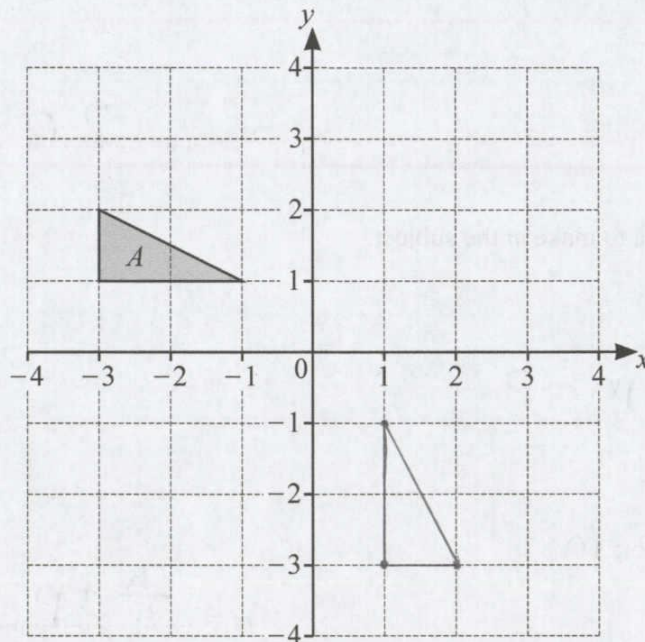
$$3\frac{7}{10} \dots\dots\dots [4]$$

$$\begin{array}{r} 5 \overline{) 105} \\ \underline{20} \\ 151 \end{array}$$

$$\begin{array}{r} 3 \\ 10 \overline{) 37} \\ \underline{30} \\ 7 \end{array}$$

$$\begin{array}{r} 22 \\ + 15 \\ \hline 37 \end{array}$$

10 The diagram shows triangle A.



$$(-1, 1) \rightarrow (1, -1)$$

$$(-3, 1) \rightarrow (1, -3)$$

$$(-3, 2) \rightarrow (2, -3)$$

Reflect triangle A in the line $y = x$.

[2]

$$(y, x)$$

- 11 (a) Write 400 as a product of its prime factors.

$$\begin{array}{r|l}
 2 & 400 \\
 \hline
 2 & 200 \\
 \hline
 2 & 100 \\
 \hline
 2 & 50 \\
 \hline
 5 & 25 \\
 \hline
 5 & 5 \\
 \hline
 & 1
 \end{array}$$

$$P.f = 2^4 \times 5^2$$

$$\dots\dots\dots 2^4 \times 5^2 \dots\dots\dots [2]$$

- (b) Find the highest common factor (HCF) of 400 and 180.

$$P.f \text{ of } 180 = 2^2 \times 3^2 \times 5$$

$$P.f \text{ of } 400 = 2^4 \times 5^2$$

$$\begin{aligned}
 HCF &= 2^2 \times 5 \\
 &= 4 \times 5 \\
 &= 20
 \end{aligned}$$

$$\begin{array}{r|l}
 2 & 180 \\
 \hline
 2 & 90 \\
 \hline
 5 & 45 \\
 \hline
 3 & 15 \\
 \hline
 3 & 5 \\
 \hline
 & 1
 \end{array}$$

$$\dots\dots\dots 20 \dots\dots\dots [2]$$

- 12 Rearrange the formula to make m the subject.

$$k = 4(m - p)$$

$$\frac{k}{4} = m - p$$

$$\frac{k}{4} + p = m$$

$$m = \dots\dots\dots \frac{k}{4} + p \dots\dots\dots [2]$$

$$\begin{array}{r}
 ② \\
 4 \ 8 \\
 \times \ 5 \\
 \hline
 240
 \end{array}$$

$$\begin{aligned}
 &9, 10, 11 \\
 &= 9 + (n-1)1 \\
 &= 9 + n - 1 \\
 &= n + 8
 \end{aligned}$$



$$9 \quad 3^{\text{rd}} \text{ term} = 3 + 8 = 11$$

- 13 (a) The n th term of a sequence is $n + 8$.

Find the first three terms of this sequence.

$$\begin{array}{l} 1^{\text{st}} \text{ term} = n + 8 \\ = (1) + 8 \\ = 9 \end{array} \quad \left| \quad \begin{array}{l} 2^{\text{nd}} \text{ term} = 2 + 8 \\ = 10 \end{array} \right|$$

$$9, 10, 11 \quad [1]$$

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

$$T_1 = 4 \quad \underbrace{\quad + 6 \quad}_{T_2 = 10} \quad \underbrace{\quad + 6 \quad}_{T_3 = 16} \quad \underbrace{\quad + 6 \quad}_{T_4 = 22}$$

- (i) Write down the term-to-term rule for this sequence.

add (6) ^{in the} previous term ~~to~~ [1]

- (ii) Find an expression for the n th term of the sequence, T .

$$\begin{aligned} T &= a + (n-1)d \\ &= 4 + (n-1)6 \\ &= 4 + 6n - 6 \\ &= 6n - 2 \end{aligned}$$

$$T_n = 6n - 2 \quad [2]$$

- (c) The n th term of another sequence is $R_n = \frac{T_n}{n+8}$.

The k th term of this sequence is 5.

Find the value of k .

$$\begin{array}{r} 252 \\ \times 42 \\ \hline 252 \end{array}$$

$$\frac{252 - 2}{42} = \frac{250}{42}$$

$$\begin{aligned} n &= k \\ k &= 42 \end{aligned}$$

$$k = 42 \quad [3]$$

$$\sqrt{254}$$



14 (a) Write 350 000 in standard form.

$$3.5 \times 10^5$$

[1]

(b) Write 2.7×10^{-4} as an ordinary number.

$$= 0.00027$$

$$0.00027$$

[1]

(c) Work out.

$$1.3 \times 10^{12} + 4.5 \times 10^{13}$$

Give your answer in standard form.

$$= \times 10^{12} (1.3 + 45)$$

$$= 46.3 \times 10^{12}$$

$$= 4.63 \times 10^{13}$$

$$4.63 \times 10^{13}$$

[2]

$$\begin{array}{r} 45.0 \\ 1.3 \\ \hline 46.3 \end{array}$$



15 The equation of line L is $2y + x = 19$.

(a) (i) Find the gradient of line L .

$$2y = 19 - x$$

$$y = \frac{19}{2} - \frac{x}{2}$$

$$-\frac{1}{2}x$$

[2]

(ii) Find the y -intercept of line L .

$$2y + 0 = 19 \quad | \quad y = 9.5$$

$$2y = 19$$

$$9.5$$

[1]

(b) Line M is perpendicular to line L .

Line M passes through the point $(-1, -5)$.

Show that the equation of line M is $y = 2x - 3$.

gradient = 2
of line M

$$y - y_1 = m(x - x_1)$$

$$y - (-5) = 2(x - (-1))$$

$$y + 5 = 2x + 2$$

$$y = 2x + 2 - 5$$

$$y = 2x - 3$$

[2]

(c) Find the coordinates of the point of intersection of the lines $2y + x = 19$ and $y = 2x - 3$.

$$2(2y + x = 19)$$

$$1(y - 2x = -3)$$

$$4y + 2x = 38$$

$$y - 2x = -3$$

$$5y = 35 \quad \checkmark$$

$$y = \frac{35}{5} \quad y = 7$$

$$y - 2x = -3$$

$$-2x = -3 - 7$$

$$-2x = -10$$

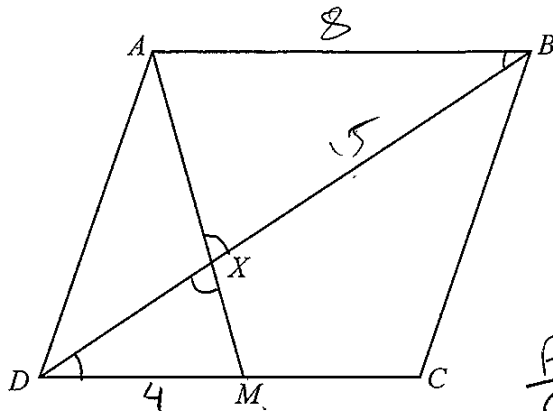
$$x = \frac{-10}{-2}$$

$$x = 5$$

$$y - 2x = -3$$

$$(5, 7) \quad [3]$$

16



NOT TO SCALE

$$\frac{AB}{MP} = BX$$

$$\begin{array}{r} 22.5 \\ 8 \overline{) 180} \\ \underline{160} \\ 20 \\ \underline{16} \\ 4 \end{array}$$

$ABCD$ is a rhombus.
 M is a point on DC .
 AM and BD intersect at X .

- (a) Show that triangle AXB is similar to triangle MXD .
 Give a geometrical reason for each statement you make.

→ Angle $MXD^\circ = AXB^\circ$ due to vertically opposite angle
 → Angle $ABX^\circ = XDM^\circ$ due to alternate angles
 → It passes the double (AA) similarity test.
 which means triangle AXB is similar to MXD . [3]

- (b) M is the midpoint of DC .
 $AB = 8\text{ cm}$ and $BD = 15\text{ cm}$.

$$AB = MD, \quad AX \neq MX, \quad XB = XD$$

- (i) Calculate DX .

$$\frac{8}{4} = \frac{15}{x-15}$$

$$\begin{array}{l} 22.5 - 15 \\ = 7.5 \end{array}$$

$$\begin{array}{l} 8x - 120 = 60 \\ 8x = 60 + 120 \\ 8x = 180 \\ x = \frac{180}{8} \\ x = 22.5 \end{array}$$

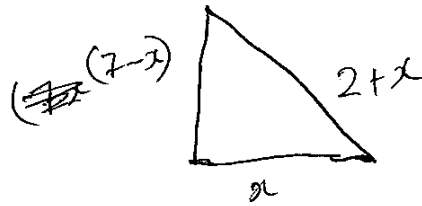
$$\frac{MP}{AB} = \frac{DX}{15}$$

$$DX = 7.5 \text{ cm [2]}$$

- (ii) Complete the statement.

$$\begin{array}{l} \left(\frac{8}{4}\right)^2 = \frac{x}{1} \\ \frac{64}{16} = x \\ 4 = x \end{array}$$

$$\text{area of triangle } AXB : \text{area of triangle } MXD = 4 : 1 \text{ [1]}$$



17 In a right-angled triangle

- the base is x cm
- the height is 7 cm shorter than the base
- the hypotenuse (longest side) is 2 cm longer than the base.

(a) Use this information to form an equation and show that it simplifies to $x^2 - 18x + 45 = 0$.

$$(2+x)^2 = x^2 + (7-x)^2$$

$$(2)^2 + (x)^2 + 2(2)(x) = x^2 + (7)^2 + x^2 - 2(7)(x)$$

$$4 + x^2 + 4x = x^2 + 49 + x^2 - 14x$$

$$x^2 - 14x - 4x + 49 - 4 = 0$$

$$\boxed{x^2 - 18x + 45 = 0}$$

[4]

(b) Solve by factorising.

$$x^2 - 18x + 45 = 0$$

$$x^2 - 15x - 3x + 45 = 0$$

$$x(x-15) - 3(x-15) = 0$$

$$(x-15)(x-3) = 0$$

$$x-3 = 0$$

$$x = 3$$

$$x-15 = 0$$

$$x = 15$$

$$x = 3 \text{ or } x = 15 \quad [3]$$

(c) Find the area of the triangle.

$$\begin{array}{l} 5^2 = 4^2 + 3^2 \\ 25 = 16 + 9 \\ 25 = 25 \end{array} \quad \left| \quad \begin{array}{l} A = \frac{1}{2} (\text{base})(\text{height}) \\ A = \frac{1}{2} (3)(4) \\ A = 6 \end{array} \right.$$

$$\dots\dots\dots 6 \dots\dots\dots \text{cm}^2 \quad [2]$$

- 18 The masses of 200 apples are summarised in the table.

mass (m grams)	$80 < m \leq 100$	$100 < m \leq 110$	$110 < m \leq 120$	$120 < m \leq 140$
frequency	30	50	80	40
F. d	1.5	5	8	2

- (a) Find the percentage of apples with a mass greater than 110 g.

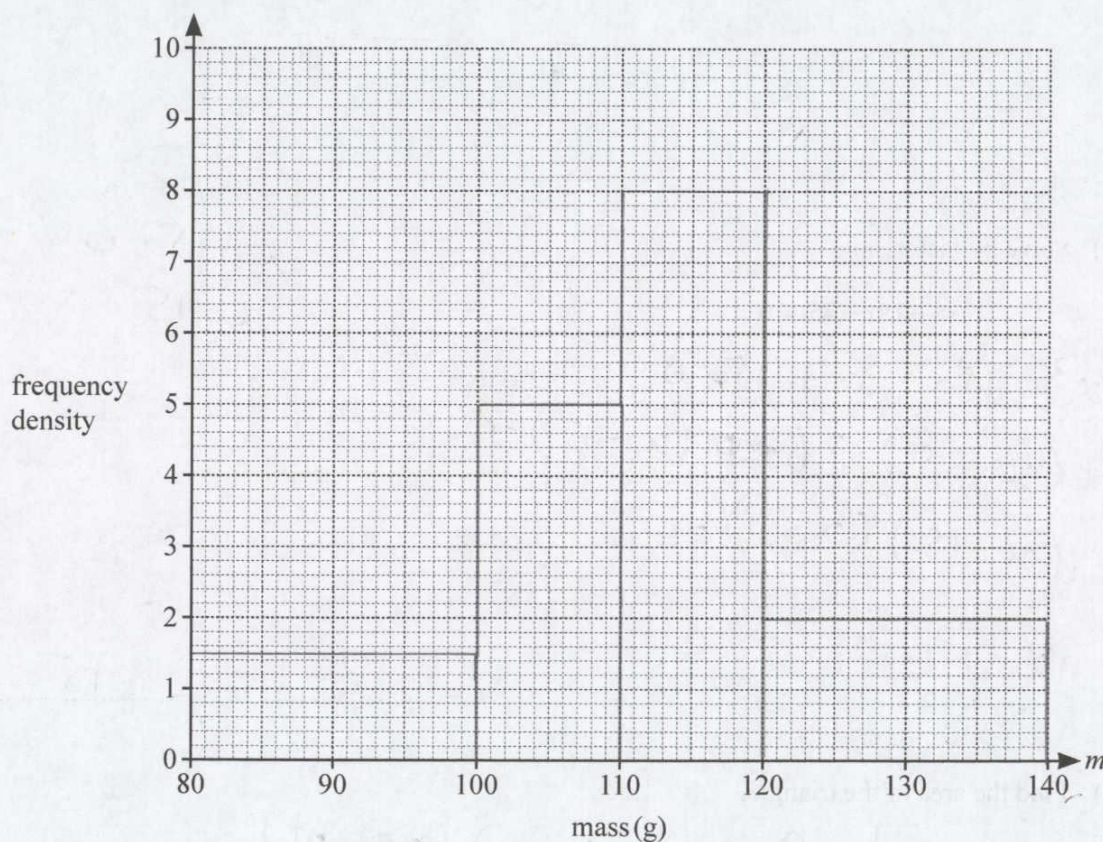
$$\% = \frac{80+40}{200} \times 100$$

$$= \frac{120}{200} \times 100$$

$$= 60\%$$

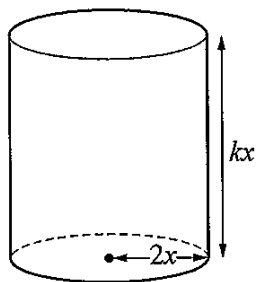
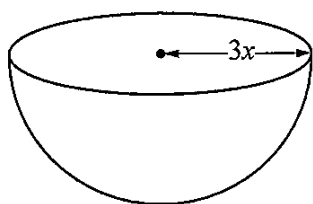
..... 60 % [2]

- (b) On the grid, draw a histogram to represent the information in the table.



[3]

- 19 The diagram shows a solid hemisphere and a solid cylinder. All the lengths are in centimetres.



NOT TO SCALE

The radius of the hemisphere is $3x$.

The radius of the cylinder is $2x$.

The height of the cylinder is kx .

The volume of the hemisphere is equal to the volume of the cylinder.

Work out the total surface area of the cylinder.

Give your answer in the form $a\pi x^2$, where a is an integer.

Volume of hemisphere = volume of cylinder

$$\frac{2}{3} \times \pi (3x)^3 = \pi (2x)^2 (kx)$$

$$\frac{2}{3} \times 27x^3 = 4x^2 \times kx$$

$$18x^3 = 4x^2 \times kx$$

$$4.5x = kx$$

$$4.5 = k$$

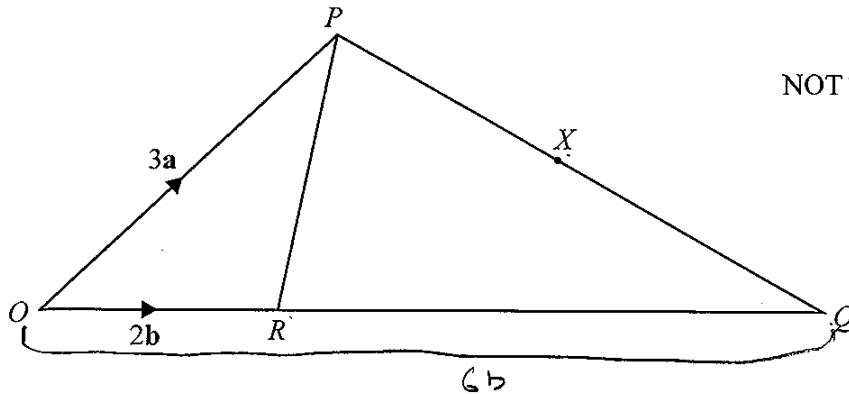
T.S.A = $2\pi(2x)^2 + 2\pi(2x)(4.5x)$

T.S.A = $2\pi \times 4x^2 + 2\pi \times 9x^2$

T.S.A = $8\pi x^2 + 18\pi x^2$

T.S.A = $26\pi x^2$

$26\pi x^2$ cm^2 [6]



NOT TO SCALE

$$\begin{aligned} OQ &= 3(OR) \\ &= 3(2b) \\ &= 6b \end{aligned}$$

OPQ is a triangle and O is the origin.

R is a point on OQ and $OQ = 3OR$.

$\overrightarrow{OP} = 3\mathbf{a}$ and $\overrightarrow{OR} = 2\mathbf{b}$.

X is the midpoint of PQ .

Find as simply as possible in terms of $\mathbf{a}$ and/or $\mathbf{b}$

(a) $\overrightarrow{PR}$

$$2\mathbf{b} - 3\mathbf{a}$$

$$\overrightarrow{PR} = 2\mathbf{b} - 3\mathbf{a} \quad [1]$$

(b) $\overrightarrow{RQ}$

$$6\mathbf{b} - 2\mathbf{b}$$

$$= 4\mathbf{b}$$

$$\overrightarrow{RQ} = 4\mathbf{b} \quad [1]$$

(c) the position vector of X .

$$\overrightarrow{PQ} = 6\mathbf{b} - 3\mathbf{a} \rightarrow PX = \frac{PQ}{2}$$

$$PX = 3\mathbf{b} - \frac{3}{2}\mathbf{a}$$

$$\begin{aligned} \text{Position vector of } X &= 3\mathbf{b} - \frac{3}{2}\mathbf{a} + 3\mathbf{a} \\ &= 3\mathbf{b} + \frac{3}{2}\mathbf{a} \end{aligned}$$

$$3\mathbf{b} + \frac{3}{2}\mathbf{a} \quad [3]$$

21 Write as a single fraction in its simplest form.

$$\frac{2x+3}{x-1} - \frac{5x}{4-x}$$

$$= \frac{2x+3(4-x) - 5x(x-1)}{(x-1)(4-x)} \quad \text{B1}$$

$$= \frac{8x - 2x^2 + 12 - 3x - 5x^2 + 5x}{(x-1)(4-x)} \quad \text{B1} \quad \text{B1}$$

$$= \frac{-7x^2 + 5x + 17}{(x-1)(4-x)}$$

$$= \frac{-7x^2 + 5x + 17}{4x - x^2 - 4 + x}$$

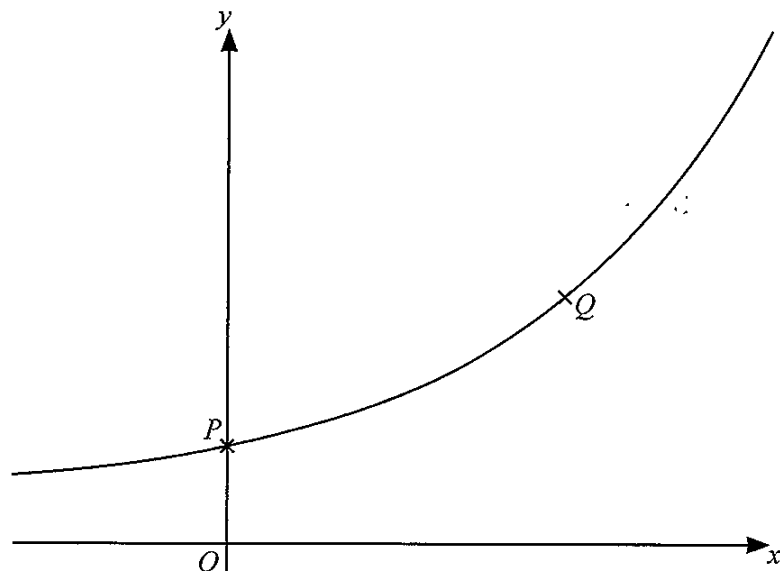
$$= \frac{-7x^2 + 5x + 17}{-x^2 + 5x - 4}$$

$$= -\left(\frac{7x^2 - 5x - 17}{x^2 - 5x + 4}\right)$$

$$= -\left(\frac{7x^2 - 5x - 17}{x^2 - 5x + 4}\right) \quad [4]$$

$$\begin{aligned} & \frac{2x+3(4-x) - 5x(x-1)}{(x-1)(4-x)} \\ &= \frac{8x - 2x^2 + 12 - 3x - 5x^2 + 5x}{4x - x^2 - 4 + x} \\ &= \frac{-7x^2 + 5x + 17}{-x^2 + 5x - 4} \\ &= -\left(\frac{7x^2 - 5x - 17}{x^2 - 5x + 4}\right) \end{aligned}$$

$$\begin{array}{r} 4 \\ 17 \\ \times 7 \\ \hline 119 \end{array}$$



NOT TO SCALE

The diagram shows a sketch of the graph of $y = a^x + b$.
The graph passes through point $P(0, 5)$ and point $Q(2, 13)$.

(a) Find the value of a and the value of b .

$$\begin{aligned}
 y &= a^x + b \\
 5 &= a^0 + b \\
 5 &= 1 + b \\
 5 - 1 &= b \\
 \boxed{4} &= b
 \end{aligned}
 \quad
 \begin{aligned}
 13 &= a^2 + 4 \\
 13 - 4 &= a^2 \\
 9 &= a^2 \\
 3^2 &= a^2 \\
 \boxed{3} &= a
 \end{aligned}$$

$$\begin{aligned}
 a &= \underline{\quad 3 \quad} \\
 b &= \underline{\quad 4 \quad}
 \end{aligned}$$

[3]

(b) Find the equation of the asymptote to the graph.

$$\underline{\quad y = 4 \quad} \quad [1]$$

$$\begin{aligned}
 4 &= 3^x + 4 \\
 0 &= 3^x \\
 0 &= 3^0 \\
 0 &\neq 1
 \end{aligned}$$



23 Find the value of x .

$$27^{-\frac{4}{3}} = 9^x$$

$$(3^3)^{-\frac{4}{3}} = (3^2)^x$$

$$(3)^{-4} = 3^{2x}$$

$$-4 = 2x$$

$$\frac{-4}{2} = x$$

$$-2 = x$$

$$x = \underline{\quad -2 \quad} \quad [3]$$

24 Expand and simplify.

$$(3 + 5\sqrt{2})(2\sqrt{8} - 1)$$

Give your answer in the form $a + b\sqrt{2}$.

$$2\sqrt{8}$$

$$= 2\sqrt{2^2 \times 2}$$

$$2\sqrt{8} = 4\sqrt{2} \quad \checkmark$$

$$\cancel{(-6\sqrt{8} - 3)}$$

$$= (3 + 5\sqrt{2})(4\sqrt{2} - 1)$$

$$= 12\sqrt{2} \checkmark - 3 \checkmark + 20\sqrt{2} - 5\sqrt{2} \checkmark$$

$$= 32\sqrt{2} - 5\sqrt{2} - 3$$

$$= 27\sqrt{2} - 3$$

$$\underline{\quad -3 + 27\sqrt{2} \quad} \quad [3]$$





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