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CAMBRIDGE INTERNATIONAL MATHEMATICS

0607/22

Paper 2 Non-calculator (Extended)

May/June 2026

1 hour 30 minutes

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. You will be given marks for correct methods even if your answer is incorrect.

INFORMATION

- The total mark for this paper is 75.
- The number of marks for each question or part question is shown in brackets [].

This document has **12** pages.

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 .

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

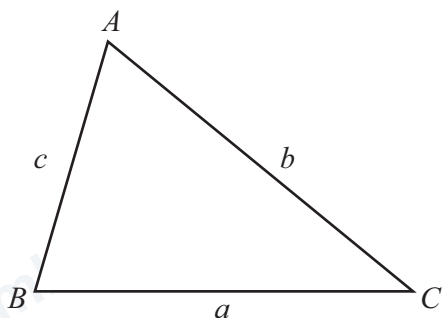
Volume, V , of sphere of radius r .

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

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,



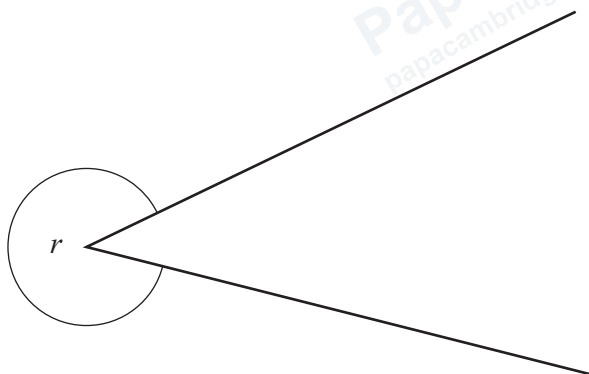
$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

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

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

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

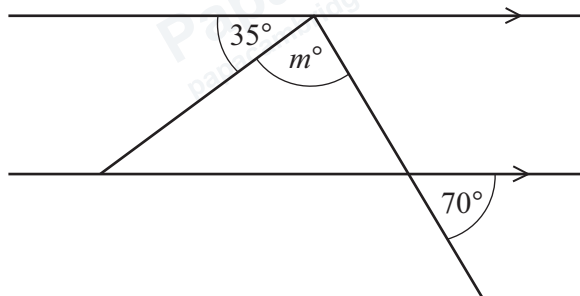
1 (a)



Measure the reflex angle r .

$r = \dots\dots\dots$ [1]

(b) The diagram shows two straight lines intersecting two parallel lines.



NOT TO SCALE

Work out the value of m .

$m = \dots\dots\dots$ [2]

2 The probability that any train arrives at station A on time is $\frac{5}{6}$.

(a) Write down the probability that a train arriving at station A is **not** on time.

$\dots\dots\dots$ [1]

(b) One day 72 trains arrive at station A .

Work out the number of these trains that are expected to arrive on time.

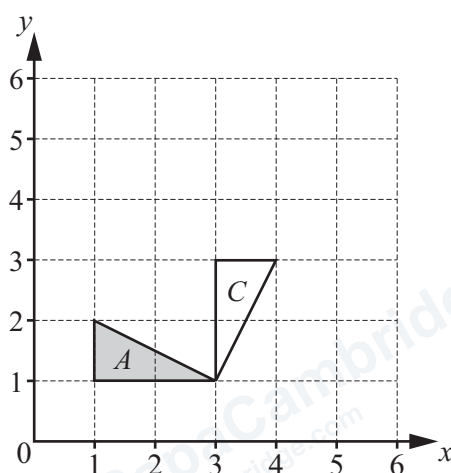
$\dots\dots\dots$ [1]

- 3 Sam goes to a friend's home.
Sam arrives at 1835.
Sam leaves her friend's home at 0940 the next day.

Work out the length of time Sam is at her friend's home.

..... h min [1]

- 4 Triangle A and triangle C are shown on the grid.



- (a) Translate triangle A by the vector $\begin{pmatrix} 1 \\ 3 \end{pmatrix}$. [2]

- (b) Describe fully the **single** transformation that maps triangle A onto triangle C .

..... [3]

- 5 Alain invests \$200 at a rate of $r\%$ simple interest per year.
At the end of 2 years the value of Alain's investment is \$212.

Work out the value of r .

$r =$ [3]



6 P is the point $(3, 7)$ and Q is the point $(7, 4)$.

(a) Show that $\overrightarrow{PQ} = \begin{pmatrix} 4 \\ -3 \end{pmatrix}$.

[1]

(b) Work out $|\overrightarrow{PQ}|$.

$|\overrightarrow{PQ}| = \dots\dots\dots$ [2]

(c) $\overrightarrow{PR} = 2\overrightarrow{PQ}$

Find the coordinates of R .

$(\dots\dots\dots, \dots\dots\dots)$ [3]

7 Work out $1\frac{5}{6} + 3\frac{1}{4}$.

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

8

$$y = \frac{\sqrt[3]{t}}{w}$$

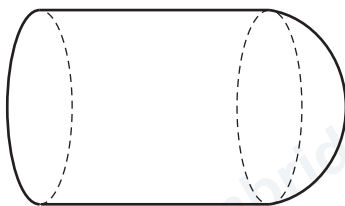
- (a) Find the value of y when $t = 27$ and $w = 9$.

$$y = \dots\dots\dots [1]$$

- (b) Rearrange the formula to write t in terms of w and y .

$$t = \dots\dots\dots [2]$$

- 9 The diagram shows a solid formed from a cylinder and a hemisphere.



NOT TO SCALE

The length of the cylinder is 10 cm and its radius is 3 cm.

The radius of the hemisphere is 3 cm.

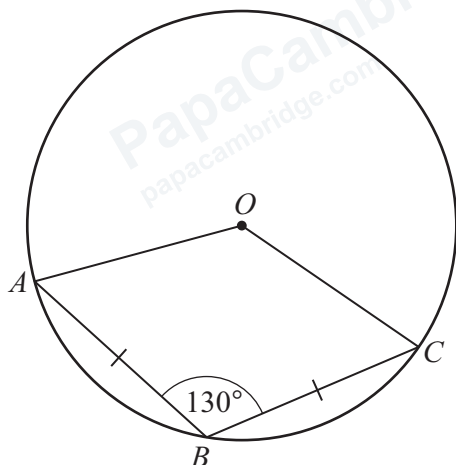
The total surface area of the solid is $k\pi$.

Find the value of k .

$$k = \dots\dots\dots [4]$$



10



NOT TO SCALE

A , B and C lie on the circle centre O .
 $AB = BC$ and angle $ABC = 130^\circ$.

Find angle OAB .

angle $OAB = \dots\dots\dots [3]$

11 Solve.

$$\frac{t+1}{7} = \frac{4-t}{2}$$

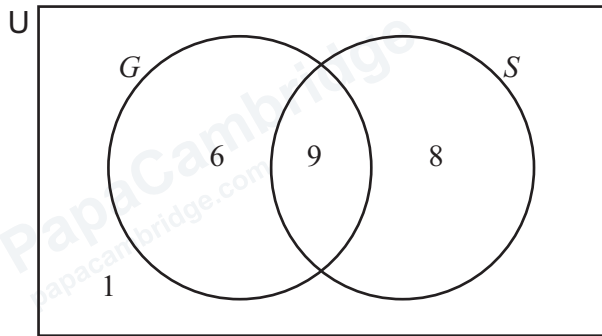
$t = \dots\dots\dots [3]$

- 12 There are 24 students in a class.

$G = \{\text{students who study German}\}$

$S = \{\text{students who study Spanish}\}$

The Venn diagram shows the number of students in each region.



- (a) Write down the number of students who do **not** study German and also do **not** study Spanish.

..... [1]

- (b) Find $n(G \cap S')$.

..... [1]

- (c) One of the 24 students is chosen at random.

Find the probability that this student studies German or Spanish but **not** both.

..... [1]

- (d) Two of the students who study German are chosen at random.

Find the probability that one student studies Spanish and one student does **not** study Spanish.

..... [3]





13 Simplify.

(a) $(3y^3)^4$

..... [2]

(b) $(16x^{16})^{\frac{1}{4}}$

..... [2]

14 The equation of line L is $y = 3x - 4$.

- (a) Line L intersects the y -axis at A and the x -axis at B .
 O is the origin.

Work out the area of triangle OAB .

..... [4]

- (b) Find the equation of the line perpendicular to line L that passes through the point $(0, 5)$.
Give your answer in the form $y = mx + c$.

$y =$ [2]





15 Write down the exact value of

(a) $\cos 30^\circ$

..... [1]

(b) $\cos 330^\circ$.

..... [1]

16 (a) $f(x) = 2x + 1$

(i) Find $f(2)$.

..... [1]

(ii) Find $f^{-1}(x)$.

$f^{-1}(x) =$ [2]

(b) $g(x) = \frac{1}{x+2}, x \neq -2$

Find $gg(x)$.

Give your answer as a fraction in its simplest form.

..... [3]



(c) $h(x) = 1 + \log_3 x$

(i) $h(x) = 3$

Find the value of x .

$x = \dots\dots\dots$ [2]

(ii) Find $h^{-1}(x)$.

$h^{-1}(x) = \dots\dots\dots$ [2]

17 (a) Simplify.

$$\sqrt{200} + \sqrt{98}$$

$\dots\dots\dots$ [2]

(b) Rationalise the denominator and simplify.

$$\frac{5}{5 + \sqrt{5}}$$

$\dots\dots\dots$ [3]

Question 18 is on the back page.



- 18 A car journey has two stages.

Stage 1: 80 km at an average speed of x km/h

Stage 2: 450 km at an average speed of $(x + 50)$ km/h

The journey takes a total of 7 hours.

- (a) Show that $7x^2 - 180x - 4000 = 0$.

[3]

- (b) By factorising $7x^2 - 180x - 4000$ find the value of x .

$x = \dots\dots\dots$ [3]

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