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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.

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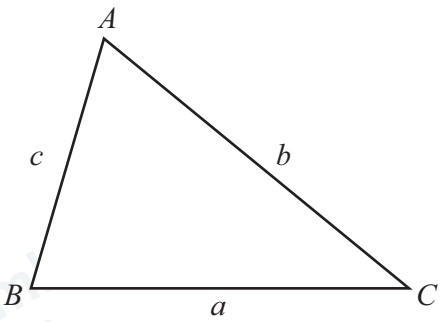
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List of formulas

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,



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

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

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

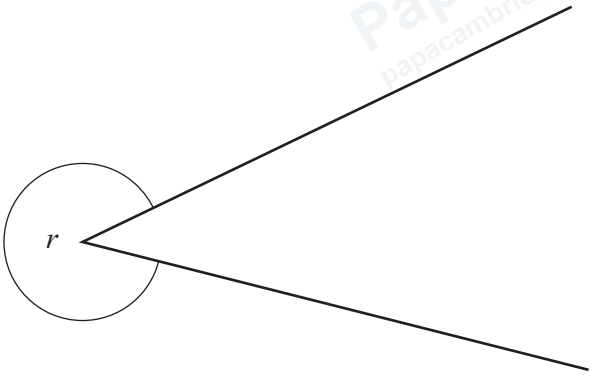
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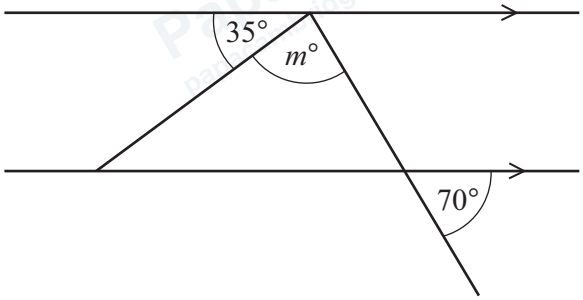
1 **(a)**



Measure the reflex angle r.

$r =$ ..... [1]

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



NOT TO SCALE

Work out the value of m.

$m =$ ..... [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.

..... [1]

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

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

..... [1]

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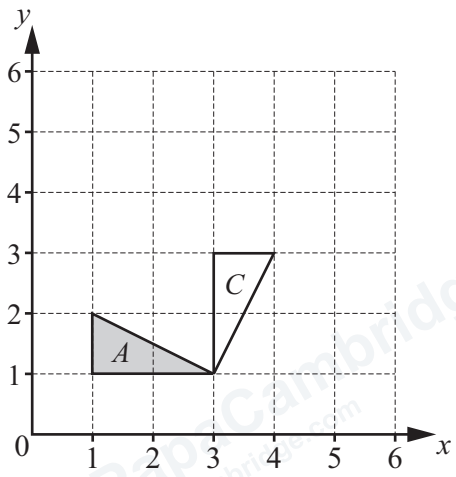
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3 Sam goes to a friend's home.
Sam arrives at 18 35.
Sam leaves her friend's home at 09 40 the next day.

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]

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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 $\left|\overrightarrow{PQ}\right|$.

$\left|\overrightarrow{PQ}\right| =$ ..... [2]

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

Find the coordinates of R.

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

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

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

..... [3]

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8 $y = \dfrac{\sqrt[3]{t}}{w}$

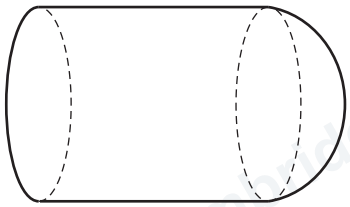
(a) Find the value of y when $t = 27$ and $w = 9$.

$y =$ ..... [1]

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

$t =$ ..... [2]

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



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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.

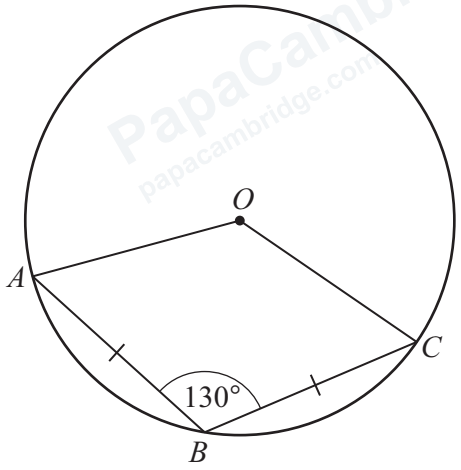
$k =$ ..... [4]

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

Find angle OAB.

angle OAB = ... [3]

11 Solve.

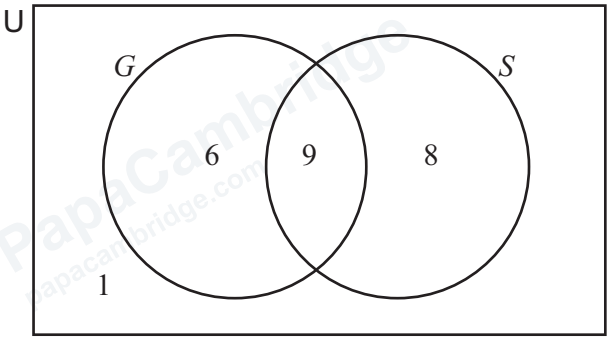
$$\frac{t+1}{7} = \frac{4-t}{2}$$

t = ... [3]

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12 There are 24 students in a class.
G = {students who study German}
S = {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]

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13 Simplify.

(a) $\left(3y^3\right)^4$

..... [2]

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

..... [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]

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15 Write down the exact value of

(a) cos 30°

..... [1]

(b) cos 330°.

..... [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]

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

(i) $h(x) = 3$

Find the value of x.

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

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

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

17 **(a)** Simplify.

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

..... [2]

(b) Rationalise the denominator and simplify.

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

..... [3]

Question 18 is on the back page.

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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.

$x =$ ..... [3]

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