



ARMY BURN HALL COLLEGE FOR BOYS
Model Paper – Class AS Level(2026)

SUBJECT: MATHEMATICS

Time allowed: 30 Minutes

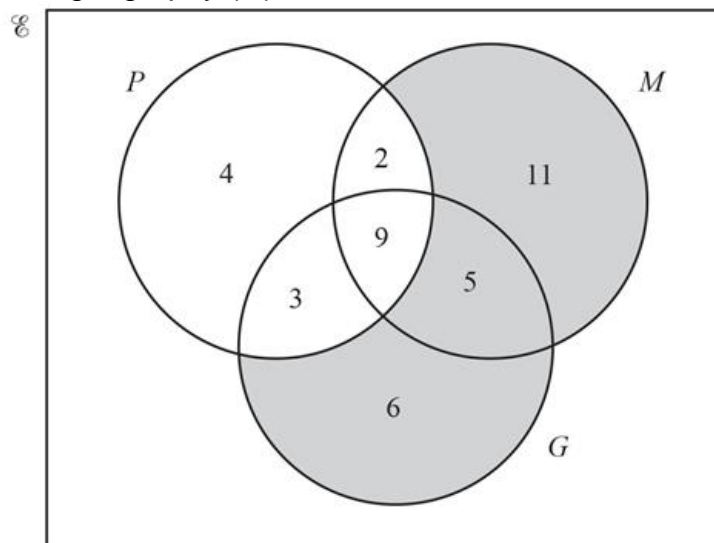
Maximum Marks: 25

INSTRUCTIONS

- Write your Roll Number only on the top right corner.
- Do not write your name or any other information.
- Do not use lead pencil.
- Avoid erasing, cutting, overwriting, etc.
- Any sign, mark, name, etc written on Answer Script to disclose your identity will disqualify you for admission to the College.

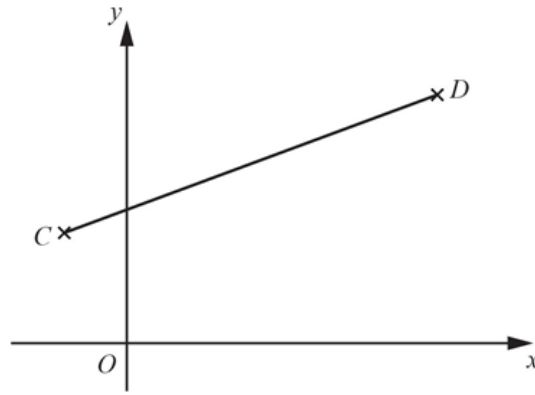
ATTEMPT ALL QUESTIONS

- Q. 1** The Venn diagram shows the number of students in a class of 40 who study physics (P), mathematics (M) and geography (G).



- (a) Use set notation to describe the shaded region.
- (b) Find $n((P \cap G) \cup \bar{M})$.
- (c) A student is chosen at random from those studying geography. Find the probability that this student also studies physics or mathematics but not both.

Q. 2



NOT TO SCALE

The diagram shows the points $C(-1, 2)$ and $D(9, 7)$.

Find the equation of the line perpendicular to CD that passes through the point $(1, 3)$. Give your answer in the form $y = mx + c$.

Q. 3



NOT TO SCALE

The diagram shows a hemispherical bowl of radius 5.6 cm and a cylindrical tin of height 10 cm.

- (a) Show that the volume of the bowl is 368 cm^3 , correct to the nearest cm^3 .
[The volume, V , of a sphere with radius r is $V = \frac{4}{3}\pi r^3$.]
- (b) The tin is completely full of soup.
When all the soup is poured into the empty bowl, 80% of the volume of the bowl is filled.

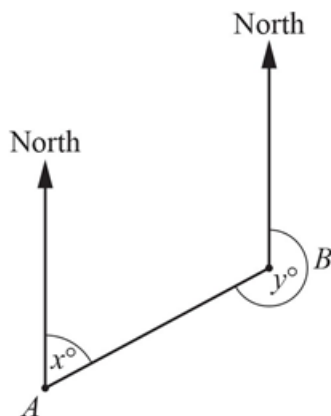
Calculate the radius of the tin.

Q. 4

The bearing of B from A is x° .
The bearing of A from B is y° .

$x : y = 2 : 7$

Calculate the value of y .

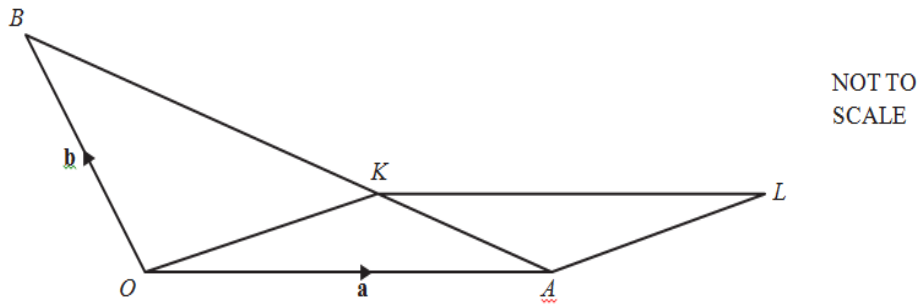


NOT TO SCALE

$y = \dots\dots\dots [3]$

Total [3]

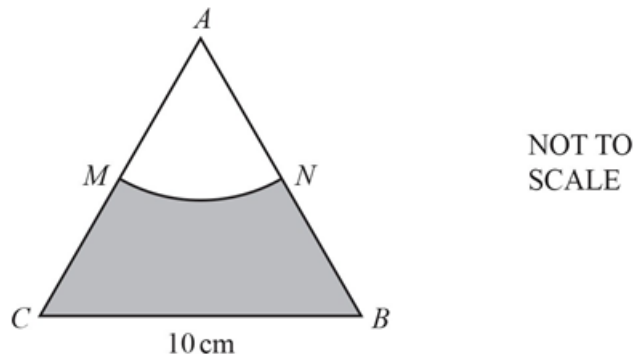
Q. 5



The diagram shows a triangle OAB and a parallelogram $OALK$. The position vector of A is \mathbf{a} and the position vector of B is \mathbf{b} . K is a point on AB so that $AK : KB = 1 : 2$.

Find the position vector of L , in terms of \mathbf{a} and \mathbf{b} . Give your answer in its simplest form.

Q. 6



The diagram shows an equilateral triangle ABC with sides of length 10 cm.

AMN is a sector of a circle, centre A .

M is the mid-point of AC .

Work out the area of the shaded region.

..... cm² [4]

Total [4]