CYPRUS MATHEMATICAL SOCIETY
REGIONAL COMPETITION
NOVEMBER 2025

PRIMARY LEVEL 6

Date: 08/11/2025 *Time: 10:00-12:00*

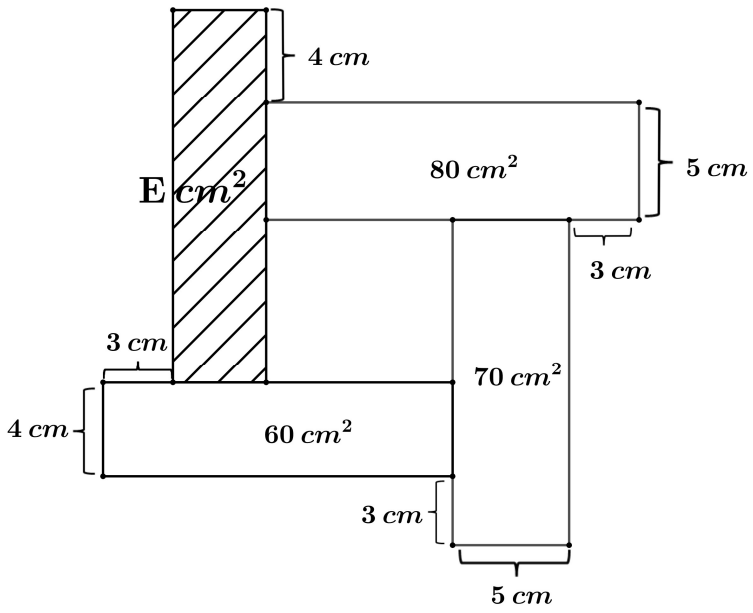
INSTRUCTIONS

1. Solve all the problems, fully justifying your answers.
2. Each problem is worth 10 points.
3. Write with blue or black ink (shapes can be drawn with pencil).
4. The use of corrective liquid (Tipp-Ex) is not allowed.
5. The use of a calculator is not allowed.

PROBLEMS

Problem 1

The figure below is made up of rectangles. Find the shaded area.



Problem 2

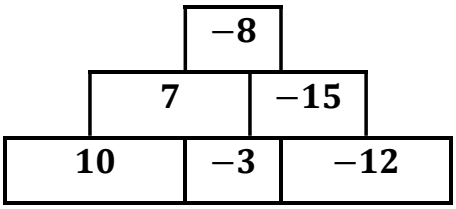
Three identical machines must complete a job. If they start work at 9:00 a.m., they finish exactly at 3:30 p.m., including a one-hour break for maintenance.

Today, however, they need to complete a larger job. For this job, the three machines are estimated to need $1\frac{1}{2}$ hours more time.

How many machines must work from the beginning (that is, starting at 9:00 a.m.) so that the job is completed exactly at 12:00 noon, without a break?

Problem 3

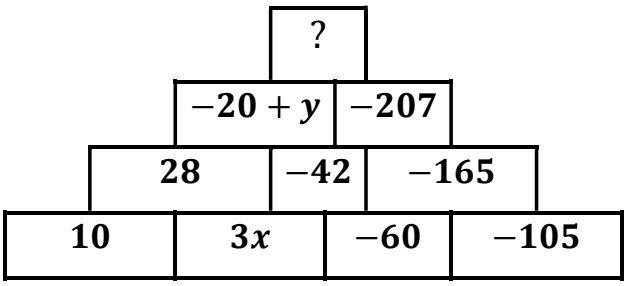
This question involves number pyramids built using addition, as shown in the example below (a three-level pyramid).



In the four-level number pyramid below, find:

a) The value of x and y.

b) The number that should be written at the top of the pyramid.



Problem 4

Three years ago, three sisters Maria, Andrea, and Georgia inherited 48 gold sovereigns in total. Each received as many sovereigns as her age at that time.

First, Maria gave half of her sovereigns, divided equally between her two sisters. Then, Andrea gave half of the sovereigns she now had, divided equally between her sisters. Finally, Georgia also gave half of her current sovereigns, divided equally between Maria and Andrea.

At the end, they all realized that each of them had the same number of sovereigns.

How old are the sisters now?