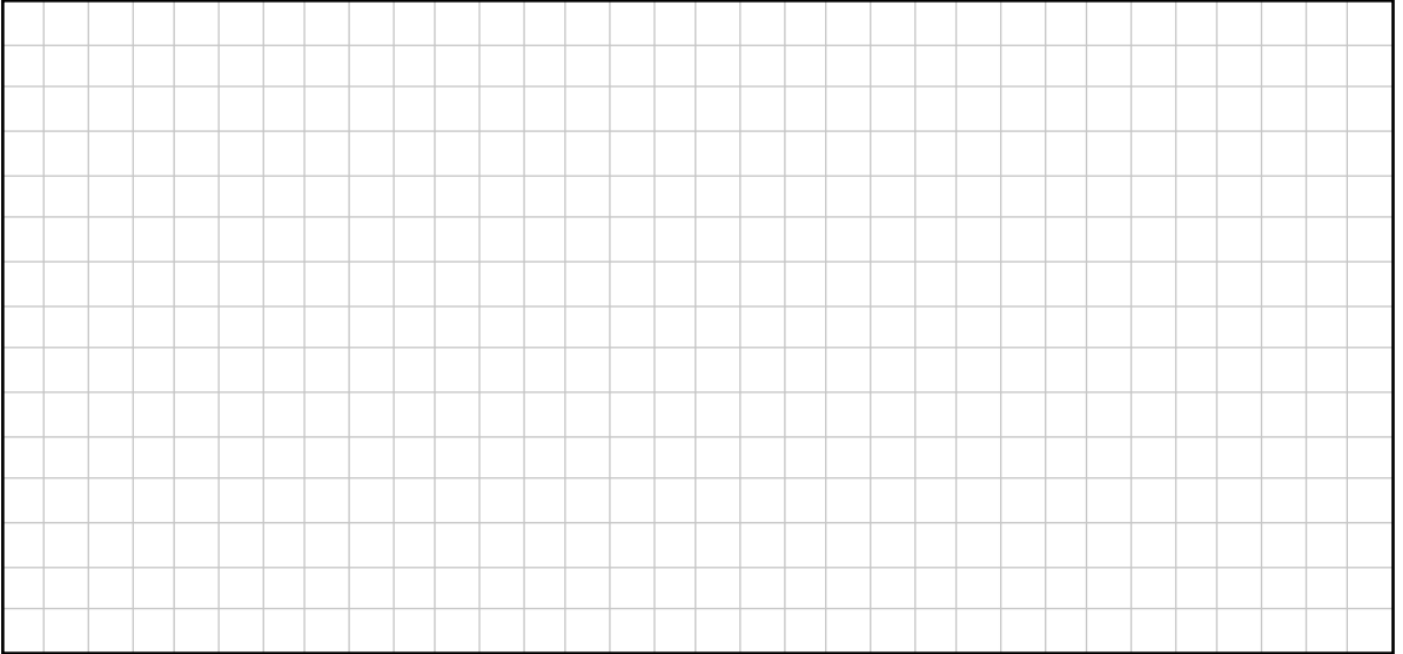


► 2024 LCHL Paper 1 – Question 3

(a) $ABCD$ is a parallelogram.

$$|AB| = 10 \text{ cm}, |BC| = 13 \text{ cm}, \text{ and } |\angle ABC| = 110^\circ.$$

Find the area of $ABCD$, correct to the nearest cm^2 .



(b) X is an angle, with $0^\circ \leq X \leq 360^\circ$, and

$$\cos(2X) = \frac{\sqrt{3}}{2}$$

Find **all** the possible values of X .



(c) KLM is a triangle where $|MK| = 15\sqrt{3}$ cm, $|ML| = 45$, and $|\angle KLM| = 25^\circ$.
 θ is the angle $\angle LKM$.

Work out the **two** possible values of θ , for $0^\circ < \theta < 180^\circ$.

Give each answer correct to the nearest degree.

