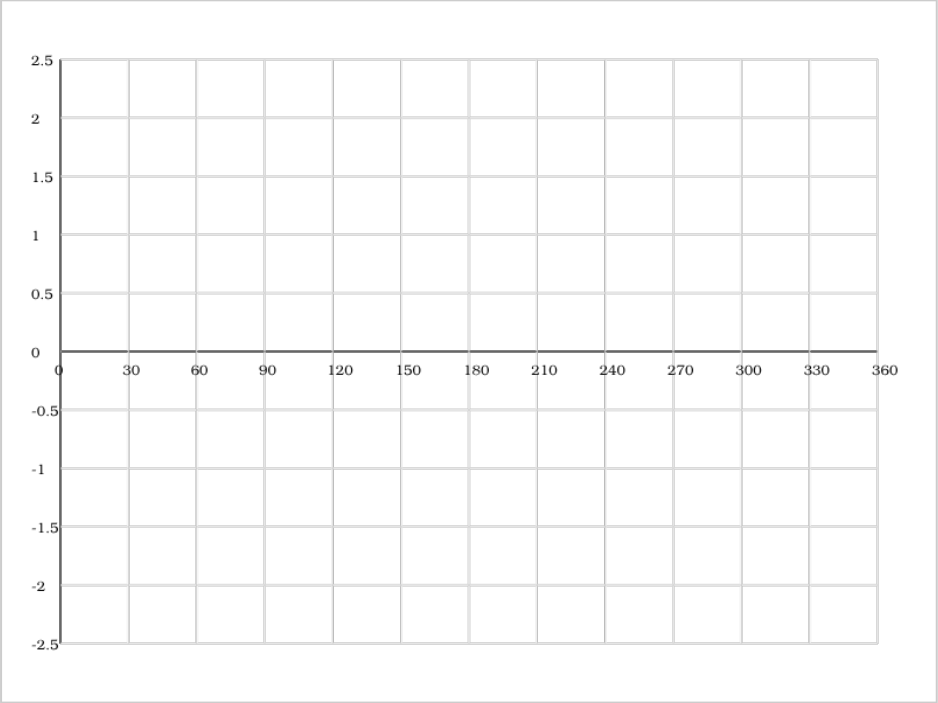
PLOTTING TRIGONOMETRIC GRAPHS

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

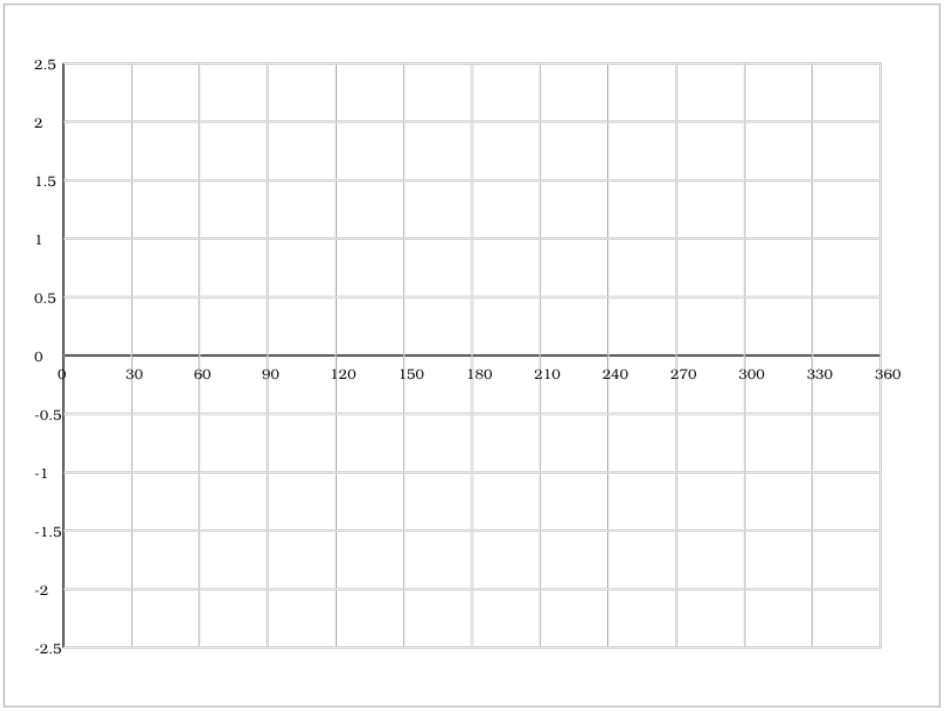
1.

Plot $y = \sin(x)$ for $0° \leq x \leq 360°$



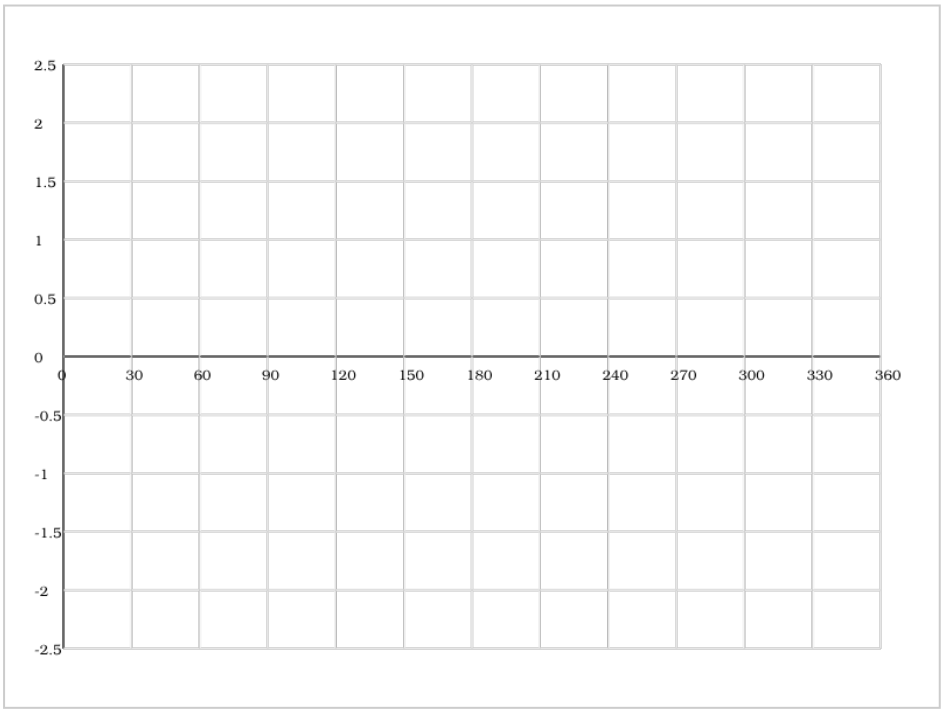
2.

Plot y = cos(x) for $0° \leq x \leq 360°$



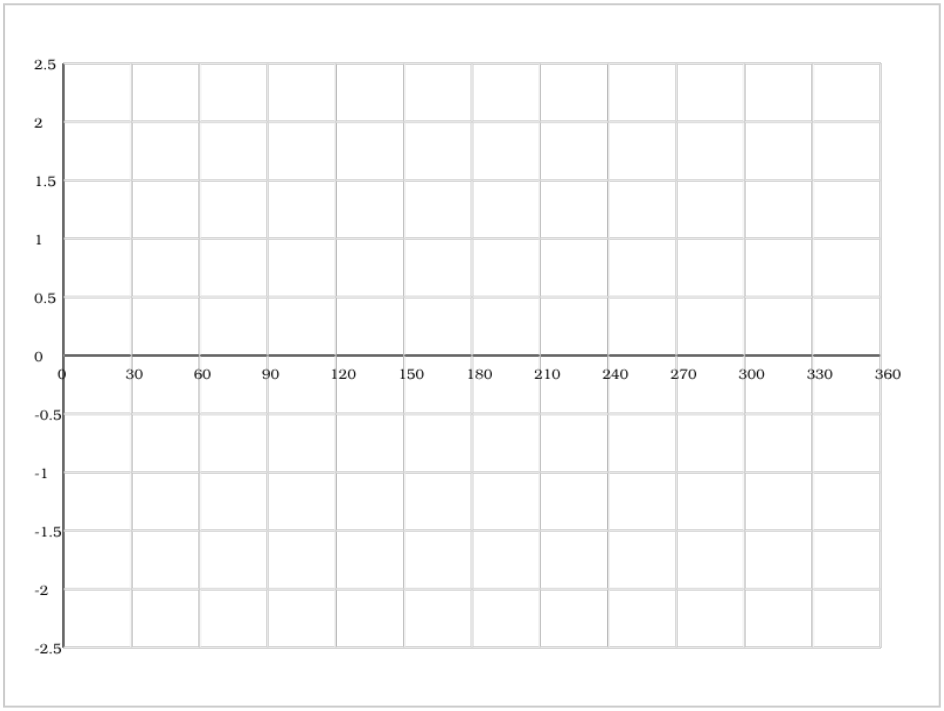
3.

Plot y = 2sin(x) for $0° \leq x \leq 360°$



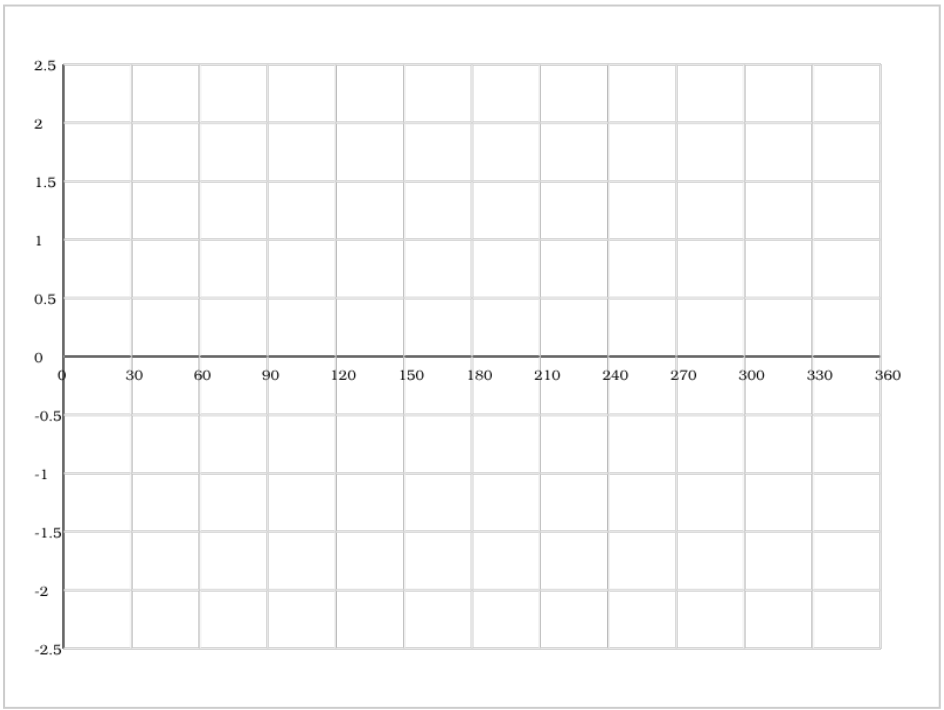
4.

Plot y = 0.5cos(x) for 0° ≤ x ≤ 360°



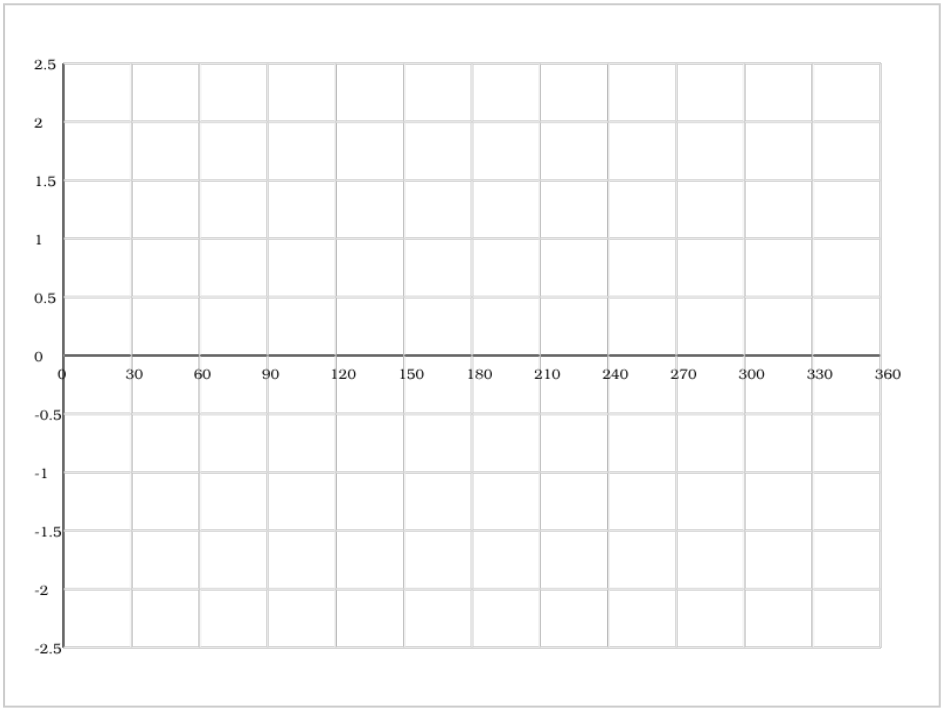
5.

Plot y = sin(x) + 1 for 0° ≤ x ≤ 360°



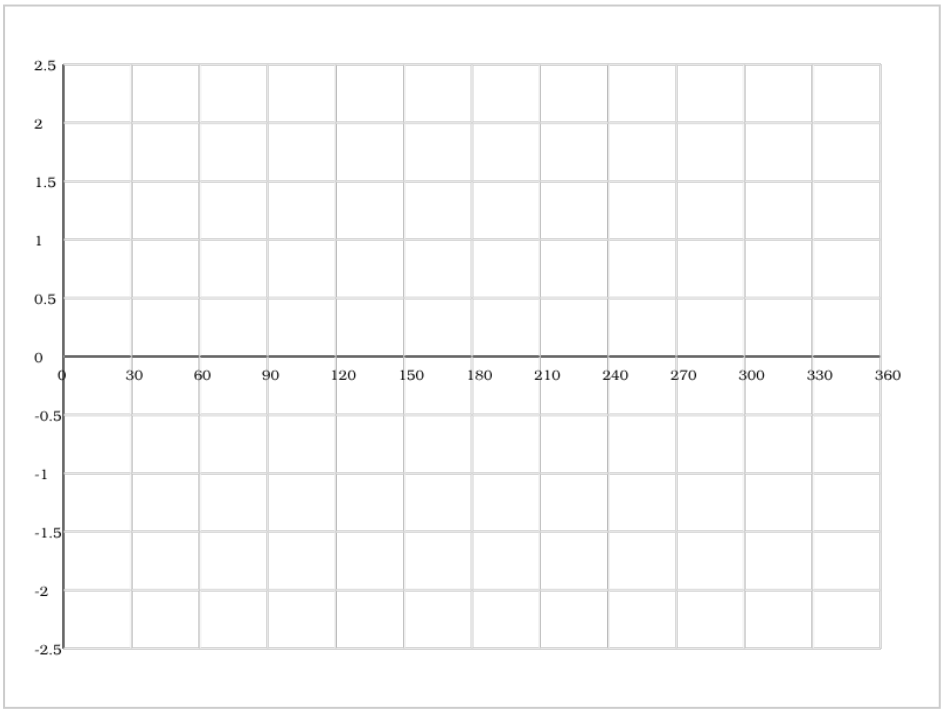
6.

Plot y = -cos(x) for 0° ≤ x ≤ 360°



7.

Plot y = tan(x) for 0° ≤ x ≤ 360°

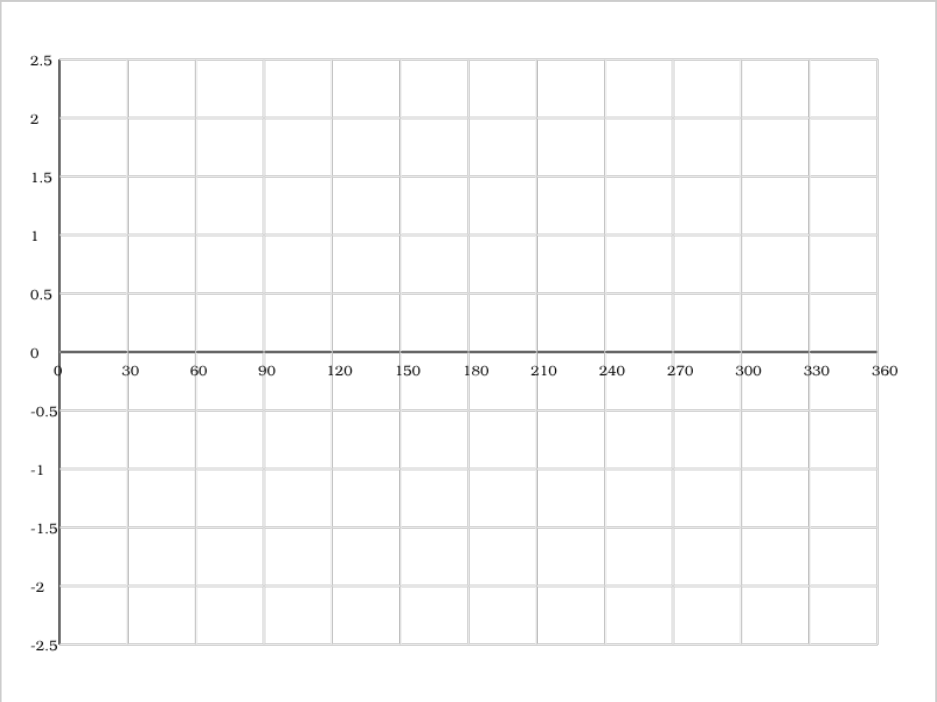


8.

MASTER QUESTIONS

M1.

A Ferris wheel has a diameter of 4 metres and completes one full rotation every 2 minutes. The height of a passenger above the ground can be modelled by a trigonometric function. Create a graph showing the height of a passenger over one complete rotation, assuming they start at the lowest point.



M2.

The temperature in a laboratory follows a daily cycle that can be approximated by a cosine function. The temperature ranges from 15°C to 25°C, with the maximum occurring at 2pm. Plot a graph showing the temperature variation over a 24-hour period starting at midnight.