MODELLING REAL SITUATIONS WITH TRIGONOMETRIC FUNCTIONS #2

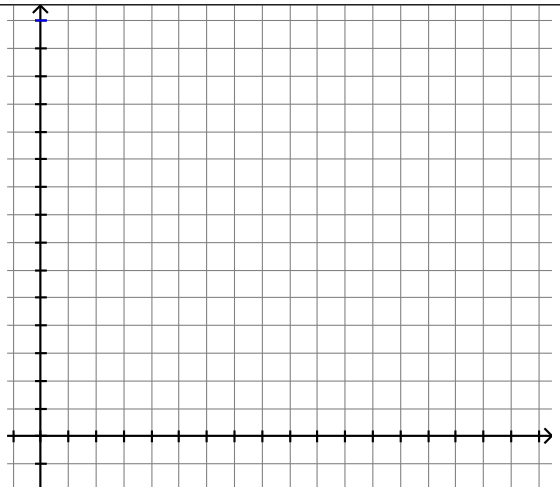
The function gives the depth of water, metres, at any time, hours during a certain day. A cruise ship needs at least 8 metres of water to dock safely.

PARTNER A: Determine the maximum and minimum depths of the water and write down the amplitude.

Partner B check and initial: _____

PARTNER B: Determine the centre of the graph and the function's vertical displacement. Label the vertical axis.

Partner A check and initial: _____



PARTNER A: Determine the period of the function and label the horizontal axis.

Partner B check and initial: _____

PARTNER B: Graph the function.

Partner A check and initial: _____

PARTNER A: Determine the first time during the day when the water depth is a maximum.

Partner B check and initial: _____

PARTNER B: Confirm algebraically.

Partner A check and initial: _____

PARTNER B: Determine the first time during the day when the water depth is a minimum.

Partner A check and initial: _____

PARTNER A: Confirm algebraically.

Partner B check and initial: _____

PARTNER A: Use the graph of the function to estimate the number of hours in the 24 hour interval starting at during which the cruise ship can dock safely.

Partner B check and initial: _____

PARTNER B: Confirm algebraically.

Partner A check and initial: _____