With your partner, solve this tide problem.

> "In a certain location, low tide occurs at 5pm and high tide occurs at 2am. The difference between low tide and high tide is 22 feet. Model this situation using a **cosine curve** with the variable "t" with t=0 being 5pm."

a) Sketch a graph of this situation. Do not label the graph using x and y. Instead, use t and h for time and height.

b) Determine the key characteristics of this tide: amplitude and period.

c) Write a cosine function as described in the problem.

d) Starting with t=0 (5pm), list the times of the next 10 low tides using t-values and clock times.