6. [11 points] A company designs chambers whose interior temperature can be controlled. Their chambers come in two models: Model A and Model B.

   a. [5 points] The temperature in Model A goes from its minimum temperature of \(-3^\circ C\) to its maximum temperature of \(15^\circ C\) and returning to its minimum temperature three times each day. The temperature of this chamber at 10 am is \(15^\circ C\). Let \(A(t)\) be the temperature (in °C) inside this chamber \(t\) hours after midnight. Find a formula for \(A(t)\) assuming it is a sinusoidal function.

   Answer: \(A(t) = \) 

   b. [6 points] Let \(B(t)\) be the temperature (in °C) inside Model B \(t\) hours after midnight, where

   \[B(t) = 5 - 3 \cos \left( \frac{3}{7} t + 1 \right)\]

   Find the two smallest positive values of \(t\) at which the temperature in the chamber is \(6^\circ C\). Your answer must be found algebraically. Show all your work and give your answers in exact form.

   Answer: \(t = \) 