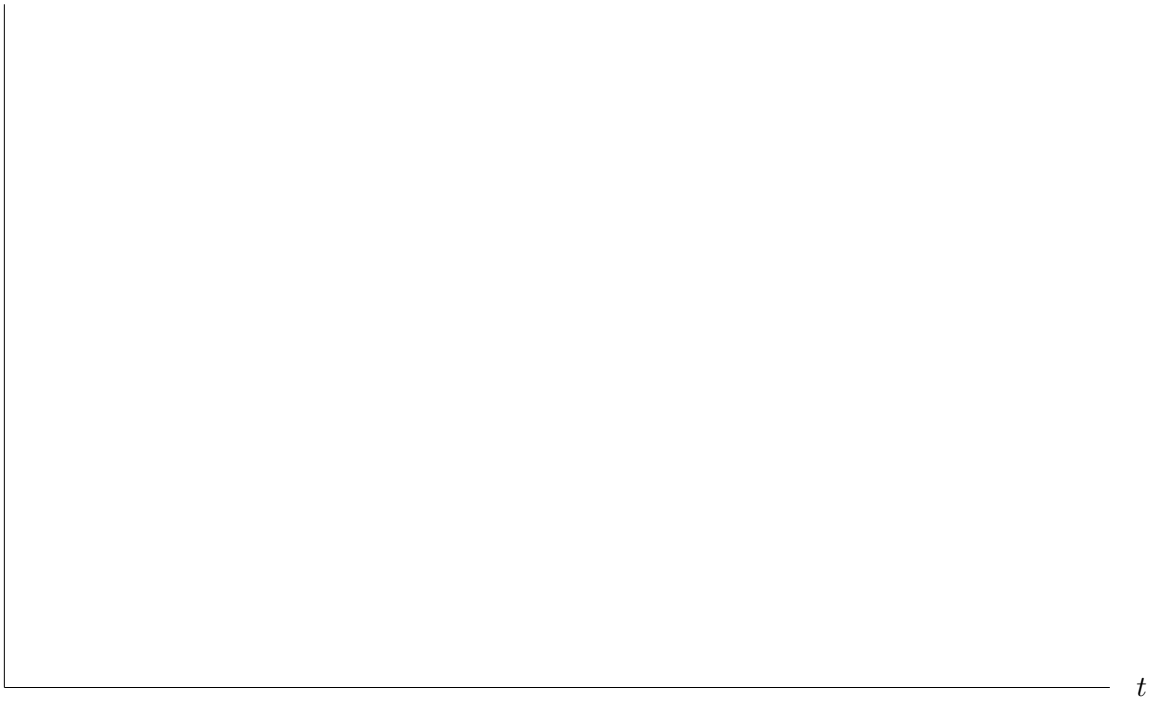
1. [10 points] The population of squirrels in Ann Arbor oscillates sinusoidally between a low of 4.1 thousand on January 1 and a high of 5.4 thousand on July 1. Let $P(t)$ be the population, in thousands, of squirrels in Ann Arbor t months since January 1.

a. [5 points] On the axes below, graph the function P, showing at least one full period. Remember to label your axes and make sure important features of the graph are clear.



b. [5 points] Use your graph to find a formula for $P(t)$.

$P(t) =$ _____