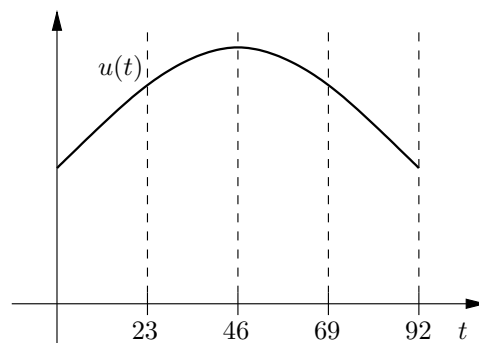


7. [14 points] Suppose that the rate of electricity use, $u(t)$, by a large calculus-problem producing factory is given, in megawatt-hours per day for the three months of summer, by the graph to the right. Time t is given in days from the beginning of the summer. As shown, the function $u(t)$ is symmetric about the middle of summer, July 16, which falls 46 days from the beginning of the summer. Let $M(T)$ be the *average rate of electricity use* of the factory over the course of the first T days of the summer.



- (a) [6 points of 14] Write a formula for $M(T)$ in terms of $u(t)$.

- (b) [8 points of 14] Fill in the missing blanks of the following table of values of $M(T)$. Show your work, so that it is clear how you obtained your answers.

T	23	46	69	92
$M(T)$	8			11