

7. [8 points] Mx. Miserable's Maids (or, MMM) charges

- an \$18 “drive up” fee per house cleaning;
- \$40 per 1000 square feet for the first 2500 square feet;
- then \$32 per 1000 square feet beyond 2500.

For example, the cost to clean a 750 square foot house is $\$18 + \$30 = \$48$. Additionally, they will not take on any clients with houses greater than 5000 square feet.

- a. [2 points] How much does MMM charge for cleaning a 3000 square foot house? *Show all work. Given your answer rounded to at least two decimal places.*

_____ dollars

- b. [6 points] Let $C(a)$ be the price, in dollars, that MMM charges for a single visit to a house that is a **thousand square feet**. Find a piecewise-defined formula for $C(a)$:

$$C(a) = \begin{cases} \rule{10cm}{0.4pt}, & \rule{10cm}{0.4pt} \\ \rule{10cm}{0.4pt}, & \rule{10cm}{0.4pt} \end{cases}$$