

- 24.** If x desks are shipped, the shipping cost per desk is

$$\begin{aligned} C &= \frac{245x - 30x^2 + x^3}{x} = x^2 - 30x + 245 \\ &= (x - 15)^2 + 20. \end{aligned}$$

This cost is minimized if $x = 15$. The manufacturer should send 15 desks in each shipment, and the shipping cost will then be \$20 per desk.