8. (17 points)

(a) A small company makes $x$ hand-painted tiles daily at a cost of $C(x) = 125 + 30x + 2x^{3/2}$ dollars. What daily production level minimizes the average cost—i.e., the cost per tile?

(b) If the company sells each tile for $75, how many tiles should they make daily in order to maximize daily profit?