

Answers to even-numbered problems:

5.1 38: After $t = \frac{e-1}{0.19}$.

5.2 22: $x = \frac{1}{\sqrt[3]{2}}$, $y = \left(\frac{1}{2}\right)^{\frac{2}{3}} + \sqrt[3]{2}$.

5.2 44: $t = 10$.

5.3 24: $f'''(x) = 4(2x+1)^{-3}$, $f^{(4)}(x) = -12(2x+1)^{-4}$.

6.1, 18: global maximum at $x = \sqrt{2}$ (the maximum value $\sqrt{2}/4$), global minimum at $x = 0$ (the minimum value 0).

6.2 24: 50 m by 50 m.