Calculus Exercises (4.4)

1. \( f(x) = \frac{x}{x^2 + 9} \)

   (1) Find \( D_f \)

   (2) Find intercepts of \( y = f(x) \).

   (3) Discuss the symmetry of the curve \( y = f(x) \).

   (4) Find asymptotes of the curve \( y = f(x) \).

   (5) Find the intervals of increase or decrease and the local maximum and minimum values of \( f(x) \).

   (6) Find the intervals of concavity and the inflection points of \( y = f(x) \).

   (7) Sketch the curve \( y = f(x) \).