Consider \( f(x) = 6x + \frac{4}{x} \).

1. There are three numbers \( A < B < C \) that are either critical or not in the domain of the function. Find \( A, B, \) and \( C \).

\[
f'(x) = 6 - \frac{4}{x^2}, \quad \text{so} \quad f'(x) = 0 \quad \text{when} \quad 6 - \frac{4}{x^2} = 0
\]

\[
A = -\sqrt{\frac{2}{3}}, \quad B = 0, \quad C = +\sqrt{\frac{2}{3}}.
\]

2. For each of the following intervals, tell whether \( f'(x) \) is positive or negative.

(a) \((-\infty, A)\) +
(b) \((A, B)\) -
(c) \((B, C)\) -
(d) \((C, \infty)\) +

3. For each of \( A, B, \) and \( C \), describe the behaviour of the function (e.g., local maximum).

(a) \( A \) local max
(b) \( B \) vertical asymptote
(c) \( C \) local min