

IB Functions Problem 021

Let $f(x) = \frac{x-5}{cx+6}$ for $x \neq -\frac{6}{c}$, $c \neq 0$.

- A. The line $x = 3$ is a vertical asymptote of the graph of f . Find the value of c .
- B. Write down the equation of the horizontal asymptote of the graph of f .
- C. The line $y = k$, where $k \in \mathbb{R}$, intersects the graph of $|f(x)|$ at exactly one point. Find the possible values of k .