Practice worksheet | Functions and graph sketching

Intercepts, stationary behaviour and asymptotes

Name: _____ Date: _____

6 questions | 26 marks

1. For $f(x) = x^2/(x - 1)$, find asymptotes and stationary points. [5 marks]

2. For $f(x) = (x^2 - 4)/(x^2 - 1)$, give intercepts, asymptotes and its stationary point. [5 marks]

3. Find the stationary points of $f(x) = x + 1/x$ and classify them. [4 marks]

4. For $f(x) = x^3/(x^2 - 1)$, explain why the origin is not a local extremum. [4 marks]

5. Find all x-intercepts of $f(x) = (x + 1)/(x^2 - 1)$ and explain any excluded apparent intercept. [3 marks]

6. Find the range of $f(x) = x^2/(x - 1)$ using its extrema or a discriminant. [5 marks]