MAT137 - Calculus with proofs

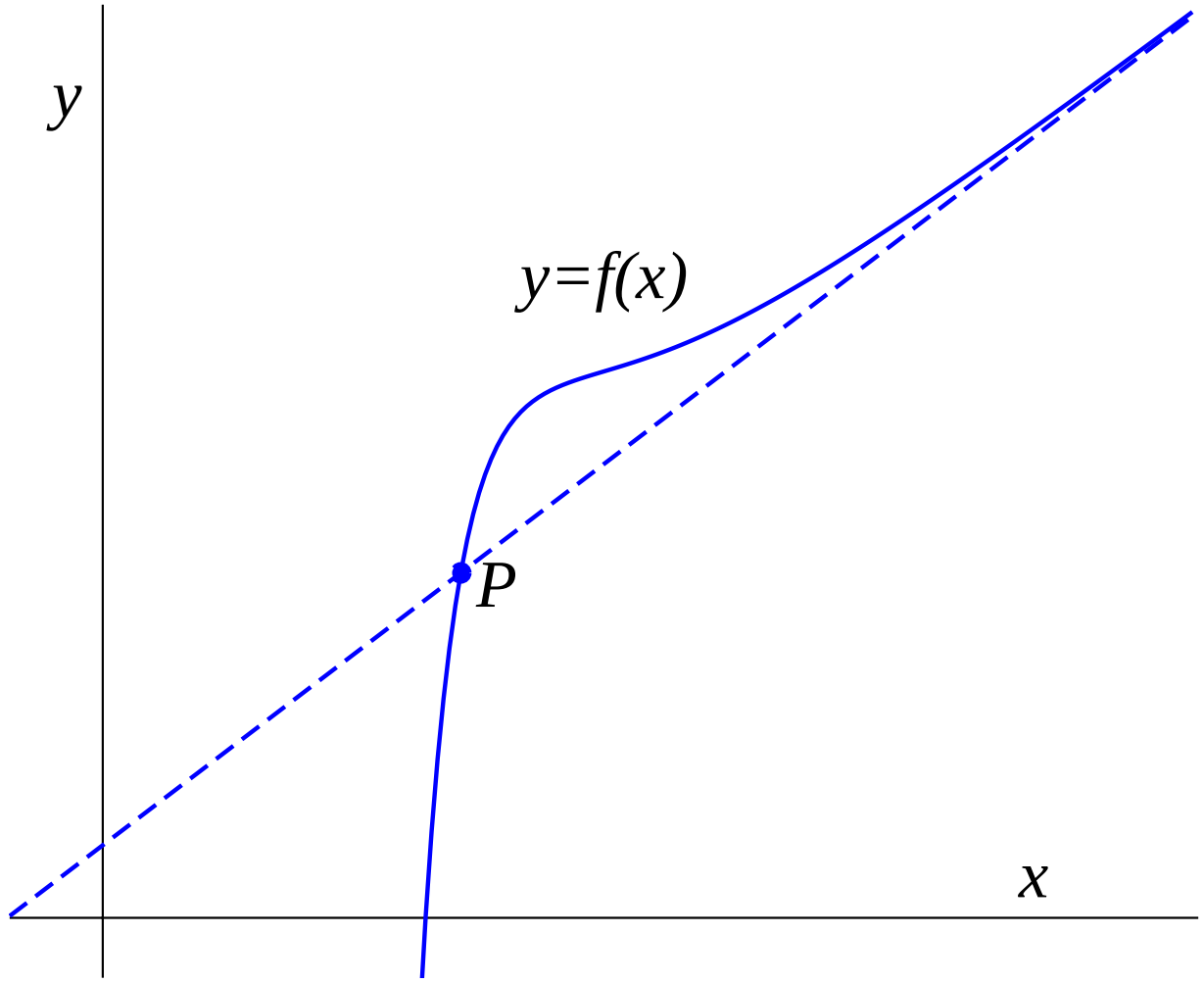
- Assignment #5 due on December 20

- TODAY: Asymptotes

- Next class is tomorrow THURSDAY: (no videos)
- Watch videos 7.1, 7.2 by Monday, January 11.

Find the coordinates of P

$$f(x) = 3x + 4 + \frac{2x - 10}{x^2}$$



Hyperbolic cotangent

The function coth, defined by

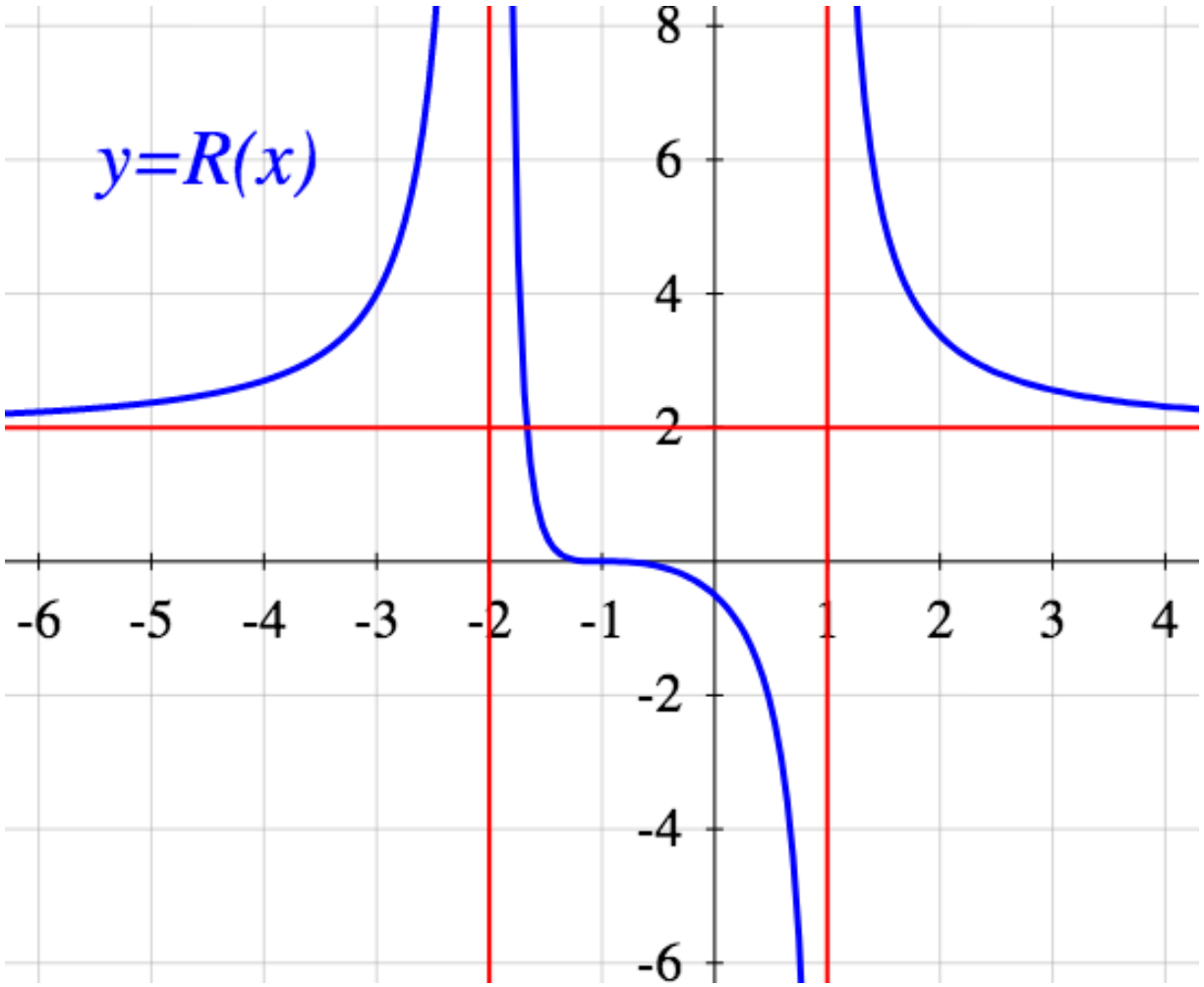
$$\coth x = \frac{e^{2x}+1}{e^{2x}-1},$$

is called the "hyperbolic cotangent".

1. Find its domain
2. Find its *three* asymptotes.
3. To save you time, I have computed that $\coth'$ is always negative (on its domain). With this information, sketch the graph of coth.

Backwards graphing

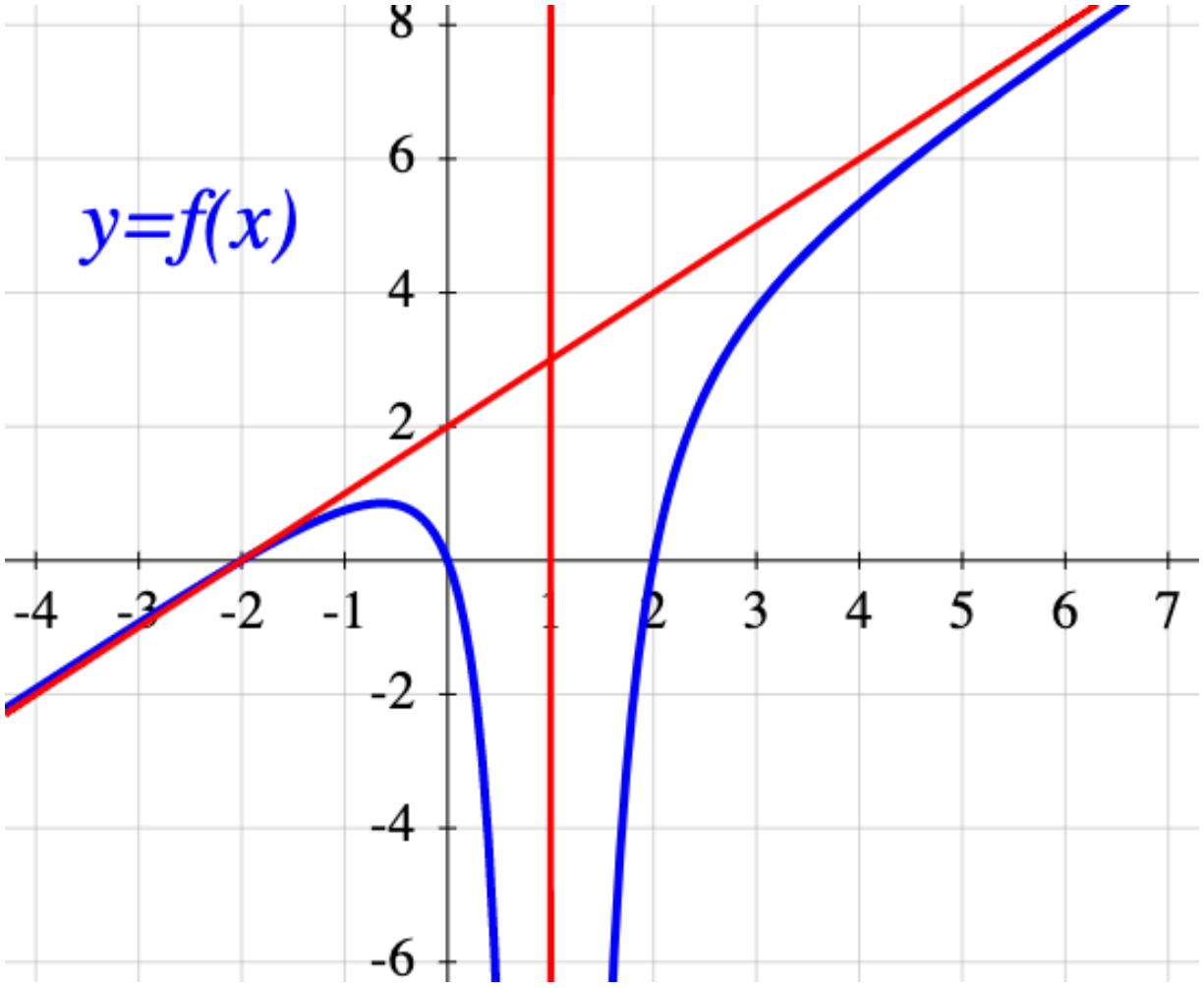
R is a rational function (a quotient of polynomials).
Find its equation.



Suggestion: Play around with desmos.

Backwards graphing - Harder

f is a rational function (a quotient of polynomials).
Find its equation.



Backwards graphing - Challenge

g is a rational function (a quotient of polynomials).
Find its equation.