

**Quiz 2, II**  
**Math 30**

1. Find all asymptotes for each of the following rational functions:

(a)  $f(x) = \frac{2x^2 - 5}{x^2 + x - 2}$

(b)  $g(x) = \frac{2x^2 - 3x + 5}{2x - 4}$

(c)  $h(x) = \frac{x + 3}{x^3 + 5x^2 - x - 5}$

2. Use the properties of logarithms to expand the following expression as much as possible:

$$\ln \sqrt[5]{\frac{x^3 y^4}{z^3 w^2}}$$

3. Solve the following equation:

$$\log(x + 1) + \log(x + 2) = 1$$

4. Solve  $2^{4x+5} = 64$ .

5. Solve the following equation:

$$e^{3x} + e^{2x} - 2e^x$$