

## IV Exercise Lesson

Monday, October 13th 2014

**Ex. 1** For each of the following functions determine: domain, sign and axis-intercepts.

1.

$$f(x) = \frac{\sqrt{x^2 + 3x + 2}}{1 - x^2}$$

2.

$$f(x) = \frac{(x + 3)e^{\sqrt{1-x}}}{x^3 + x^2}$$

**Ex. 2** For each of the following functions determine: domain, sign and axis-intercepts.

1.

$$f(x) = (x + 2) \ln(\sqrt{x^2 + 2x + 1})$$

2.

$$f(x) = \sqrt{\frac{2 - x}{x^3 + 5x^2 - 6x}}$$

**Ex. 3** For each of the following functions determine: domain, sign and axis-intercepts.

1.

$$f(x) = \sqrt{|x^2 - 1|}e^{x-2}$$

2.

$$f(x) = \frac{|\ln(x^2 + x)|}{e^x - 1}$$

3.

$$f(x) = \frac{\sqrt{(2x - x^2)}}{xe^{3x}}$$