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III Exercise Lesson

Monday, October 13th 2014

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

1.
$$f(x) = \frac{3x - 1}{1 - x}$$

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

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

4.
$$f(x) = \frac{2x - 1}{x^3}$$

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

1.
$$f(x) = \ln(x + 1)$$

2.
$$f(x) = x \ln(2 - x)$$

3.
$$f(x) = (x^2 - 1) \ln x$$

4.
$$f(x) = \frac{\ln(2x - 1)}{x + 2}$$

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

1.
$$f(x) = xe^{x-2}$$

2.
$$f(x) = (x + 2)e^x$$

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3.
$$f(x) = e^x - 1$$

4.
$$f(x) = (x^2 - x)e^{3x}$$

Ex. 4 For each of the following functions determine: domain, sign and axis-intercepts.

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

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

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

4.
$$f(x) = \frac{(2x - x^2)}{e^{3x}}$$