

What you should already know

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Students in differential calculus are expected to already have achieved mastery in concepts of algebra and trigonometry as covered in MTH 111 and MTH 112. You should already be proficient in understanding the following (this is by no means an exhaustive list!):

- Functions:
 - Addition, subtraction, multiplication, division, negation, scaling, shifting, and composition of functions;
 - Constant, linear, and quadratic functions;
 - Polynomial and rational functions;
 - Even and Odd functions;
- Completing the square;
- Factoring polynomials;
- Polynomial long division;
- Identify correct order of operations;
- Be aware of common algebraic fallacies (e.g. $(a + b)^n \neq a^n + b^n$);
- Trigonometric, exponential, and logarithmic functions;
- Exponential growth and decay problems;
- Trigonometric, exponential, and logarithmic identities;

If you are unfamiliar of any of the above concepts, see your instructor *as soon as possible*.