Just-in-Time Algebra Review!

Succeeding in applied calculus

algebra essentials

second edition

WARREN B. GORDON

The Laws of Exponents

$b^n = b \cdot b \cdots b$ $\qquad$ $b^{-n} = \dfrac{1}{b^n}$ $\qquad$ $b^m \cdot b^n = b^{m+n}$

$(b^m)^n = b^{m \cdot n}$ $\qquad$ $\dfrac{b^m}{b^n} = b^{m-n}$ $\qquad$ $b^0 = 1$

$(ab)^n = a^n b^n$ $\qquad$ $\left(\dfrac{a}{b}\right)^n = \dfrac{a^n}{b^n}$

The Quadratic Formula

Given, $ax^2 + bx + c = 0$, with $a \neq 0$, then

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

The Slope Formula

Let (x_1, y_1) and (x_2, y_2) be any two points on a line for which $x_1 \neq x_2$, then the slope of the line is given by

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

The Point Slope Equation of a Line

If you are given the slope of a line m, and know the coordinates of one point (x_1, y_1) on the line, then the equation for the line is given by the point-slope equation

$$y - y_1 = m(x - x_1)$$

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