WORKSHEET 20

MATH 101

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Volume by slicing

Problem 1. We know from geometry that the formula for the volume of a pyramid is $V = \frac{1}{3}Ah$. If the pyramid has a square base, this becomes $V = \frac{1}{3}a^2h$, where a denotes the length of one side of the base. Derive this formula for the pyramid.

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Volume of Revolution

Read the description of Surface of revolution in the textbook, Section 6.2.

Problem 2. Find the volume of the solid of revolution bounded by the graphs of $f(x) = x^2 - 4x + 5$, $x = 1$, and $x = 4$, and rotated about the x-axis.