

An Application of Simpson's Rule

Problem: Suppose we want to know roughly how much water is flowing through a particular stream. Using a combination of water level (usually referred to as *stage*) and previous measurements, we collect flow data over 30 minute time intervals as shown in the table below. Use Simpson's Method to approximate the total flow (in ft^3) for the Vermillion River Near Empire, MN from 5am to 3pm on Sunday, March 9th, 2003.

obtained from <http://waterdata.usgs.gov/nwis/rt>

<u>date & time</u>	<u>ft³/sec</u>
3/9/2003 5:00	40
3/9/2003 5:30	42
3/9/2003 6:00	42
3/9/2003 6:30	43
3/9/2003 7:00	43
3/9/2003 7:30	43
3/9/2003 8:00	43
3/9/2003 8:30	42
3/9/2003 9:00	42
3/9/2003 9:30	42
3/9/2003 10:00	39
3/9/2003 10:30	36
3/9/2003 11:00	34
3/9/2003 11:30	33
3/9/2003 12:00	33
3/9/2003 12:30	34
3/9/2003 13:00	35
3/9/2003 13:30	37
3/9/2003 14:00	38
3/9/2003 14:30	40
3/9/2003 15:00	42

