Calculus   Worksheet #6   Unit 11   _____

Approximate the following definite integrals using each of the following approximation methods.

(a) S_L (Left Rectangular),   (b) S_R (Right Rectangular), (c) S_M (Midpoint Rectangular),

(d) S_T (Trapezoidal), and (e) S_S (Simpson's).

Show your complete solutions neatly organized. In every case, divide the interval [a, b] into 6 sub-intervals.

1. $\displaystyle\int_1^4 (x^2+1)\,dx$

2. $\displaystyle\int_0^{\frac{\pi}{2}} \cos x \; dx$

3. $\displaystyle\int_0^3 \sqrt{x^2+1}\;dx$