

Solution 21.4

Analytical solution:

$$\int_1^2 (x + 2/x)^2 dx = \left[\frac{x^3}{3} + 4x - \frac{4}{x} \right]_1^2 = 8.33333$$

Trapezoidal rule ($n = 1$):

$$(2-1) \frac{9+9}{2} = 9$$

The results are summarized below:

n	Integral	\mathcal{E}_t
1	9	8.00%
2	8.513889	2.17%
3	8.415185	0.98%
4	8.379725	0.56%