For more work with the data table estimate $\int_1^{1.8} f(x)\,dx$ using Romberg integration.

For h = 0.4

$T(h) = T(0.4) = \frac{0.4}{2}[f(1.0) + 2f(1.4) + f(1.8)]$

$= 0.2\,[1.0 + 2(0.67032005) + 0.44932896]$

$= 0.557993812$

$T(\frac{h}{2}) = T(0.2) = \frac{0.2}{2}[f(1.0) + 2f(1.2) + 2f(1.4) + 2f(1.6) + f(1.8)]$

$= .1\,[1 + 2(0.81873075) + 2(0.67032005) + 2(0.54881164) + 0.44932896]$

$= 0.552505384$

Romberg:

$T_2(h) = T(\frac{h}{2}) + \frac{T(\frac{h}{2}) - T(h)}{2^{2(2-1)} - 1}$

$= 0.552505384 + \frac{0.552505384 - 0.557993812}{3}$

$= 0.552505384 - 0.001829476$

$= 0.550675908$