Some notes from class

2018-02-07

Numerical approximation of $\int_{\pi/2}^{\pi} 2\sin x\,dx$

Fact: $\int_{\pi/2}^{\pi} 2\sin x\,dx = 2$

n	L_n	R_n	T_n	M_n
6	2.2504	1.7267	1.9885	2.0057
18	2.086	1.9115	1.9987	2.00063
54	2.028947	1.97077	1.99986	2.00007

n	$E_L(n)$	$E_R(n)$	$E_T(n)$	$E_M(n)$
6	0.25036	-0.2732	-0.01144	0.00572
18	0.085997	-0.0885	-0.00127	0.00063
54	0.02895	-0.0292	-0.00014	.0000705

$E_L(6)$ vs $E_L(18)$

$E_L(18)$ vs $E_L(54)$

$E_M(6)$ vs $E_M(18)$

$E_T(6)$ vs $E_T(18)$

$E_T(n)$ vs $E_M(n)$

General set-up for Simpson's Rule