

7.

i	$f^{(i)}(x)$	$f^{(i)}(1)$	$k_i = \frac{f^{(i)}(1)}{i!}$
0	e^{2x}	e^2	e^2
1	$2e^{2x}$	$2e^2$	$2e^2$
2	$4e^{2x}$	$4e^2$	$2e^2$
3	$8e^{2x}$	$8e^2$	$\frac{4e^2}{3}$

The Taylor polynomial for $f(x)$ is
$$e^2 + 2e^2(x-1) + 2e^2(x-1)^2 + \frac{4e^2}{3}(x-1)^3$$