

# Homework #18 Final Answers

Fill all Details  
and ASET Justification

1.  $\frac{1}{e} \approx \frac{1}{3}$

Max error  $\frac{1}{24}$  ...

2.  $\frac{1}{e} \approx \frac{3}{8}$

Max error  $\frac{1}{120}$  ...

3.  $\frac{1}{e} \approx \frac{11}{30}$

Max error  $\frac{1}{720}$  ...

4.  $\sin 1 \approx \frac{101}{120}$

Max error  $\frac{1}{5040}$  ...

5.  $e^{-1/3} \approx \frac{13}{18}$

Max error  $\frac{1}{162}$  ...

6.  $\arctan\left(\frac{1}{2}\right) \approx \frac{11}{24}$

Max error  $\frac{1}{160}$  ...

7. Integral  $\approx \frac{11}{80}$

Max error  $\frac{1}{33}$  ...

8. Integral  $\approx \frac{11}{48}$

max error  $\frac{1}{1440}$

