

## Comparing Quadratic Approximations to Calculator Computations

In a previous worked example, we explored linear approximations to the sine function at the point  $x = 0$ . In this example, we use the quadratic approximation for  $e^x$  to calculate values of the exponential function near  $x = 0$  and again compare the results to decimal approximations on a scientific calculator.

Find the linear approximation to  $e^x$  at the point  $x = 0$  and use your answer to approximate the values of  $e^{0.1}$ ,  $e^{-1}$  and  $e$ . Check your answer on a calculator.

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