

Worksheet #25: Graphing with Calculus and Calculators

Not every equation can be solved analytically. Sometimes, we know that an equation has a solution, even if we are not able to calculate it directly ourselves. In situations like that, you may need a graphing calculator or computerized graphing software to solve the problem.

Some useful features are:

1. Finding maximums/minimums
2. Finding zeroes/roots
3. Calculating where two graphs intersect

1. Graph the function: $f(x) = x^2 - \sin x$

2. Find the derivative of the function and explain how you know that there must be a critical point somewhere between $x = 0$ and $x = \frac{\pi}{2}$.

3. Find the x -coordinate where the minimum value the function occurs by using a graphing calculator or computerized graphing software to determine where the derivative was zero.