

Description

Euler's Method is a process for finding an approximate numerical solution to the differential function $y' = F(x,y)$. That is, it yields an approximate value of $f(x)$ at a desired value of x .

The process is iterative, starting with a known value of the solution, (x_0, y_0) close to our desired value of x and an x -interval, h .

The Method

- 1 Find the value of derivative at (x_0, y_0) ; call this m .
- 2 Add h to x_0 . This is your new x -value; call it x_1 .
- 3 Calculate the equation of the tangent line to the function at x_1 using the equation
$$y_1 = mh + x_0$$

▷ Now we have (x_1, y_1)
- 4 Let x_1 be our new x_0 , and return to step 1.
- 5 Repeat the loop until you have reached your desired value of x .