

Regula-Falsi Method

OR

False position Method.

Algorithm

1. start
2. Define function $f(x)$
3. choose initial guess a and b such that $f(a) \times f(b) < 0$
4. choose specified error E
5. Calculate new approximated root as
$$m = \frac{a f(b) - b f(a)}{f(b) - f(a)}$$
6. Calculate $f(a) \times f(m)$
 - a. if $f(a) f(m) < 0$ then $b = m$
 - b. if $f(a) f(m) > 0$ then $a = m$
 - c. if $f(a) f(m) = 0$ then goto (8)
7. if $|f(m)| > e$ then goto (5) otherwise goto (8)
8. Display m as the root
9. stop