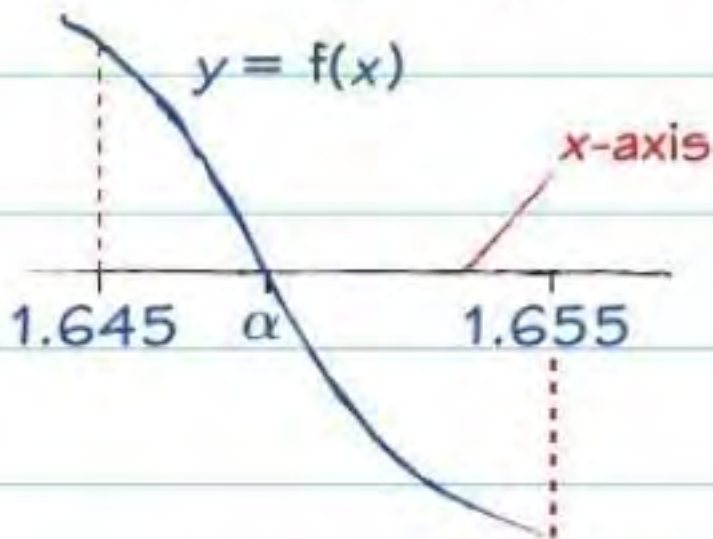


Summary of key points

- 1** If the function $f(x)$ is continuous on the interval $[a, b]$ and $f(a)$ and $f(b)$ have opposite signs, then $f(x)$ has at least one root, x , which satisfies $a < x < b$.

Change of sign

You can use a change of sign (from **positive to negative**, or vice versa) to show that a particular interval contains a root of an equation.



$f(1.645)$ is positive and $f(1.655)$ is negative so $f(x) = 0$ has a root, α , between 1.645 and 1.655. All values in this interval round to 1.65, so $\alpha = 1.65$ to 2 decimal places.