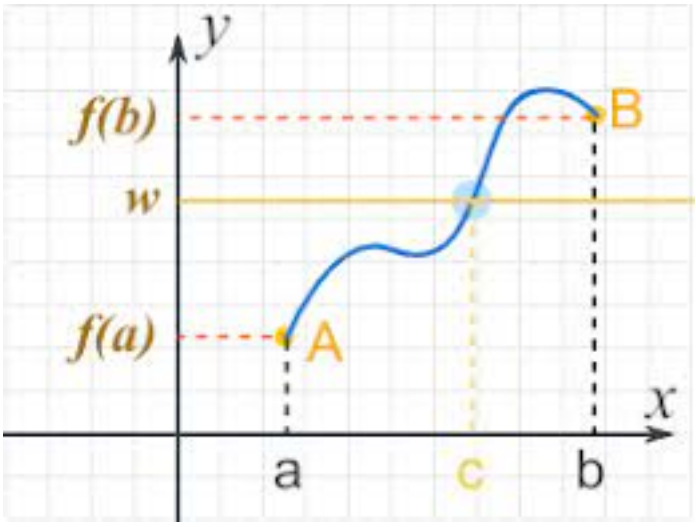
1.3 (continued) Intermediate Value Theorem

Intermediate Value Theorem –



Real-life examples:

1)

2)

Use the Intermediate Value Theorem to show that the function $f(x) = x^3 + 2x - 1$ has a zero in the interval $[0, 1]$

Is any real number exactly 1 less than its cube?

Use the Intermediate Value Theorem to verify that $h(x) = (x - 3)^2 - 7$ has a root between $x = 5$ and $x = 6$

Use the Intermediate Value Theorem to prove that the equation $x^3 = 2x^2 + 3x - 3$ has three solutions.