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CS 3010

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Excerise 5

$$f(x) = x^3 + 3x - 1, \text{ on } [0,1]$$

Bisection: 0.32218533754348755 23 True

Newton: 0.3221853546260856 3 True

Secant: 0.3221852442945197 4 True

Hybrid: 0.3221853546260856 12 True

$$f(x) = x^3 + 2x^2 + 10x - 20 \quad x_0 = 2, x_1 = 1$$

Bisection: 1.368808090686798 23 True

Newton: 1.3688081078213725 5 True

Secant: 1.3688081078326166 5 True

Hybrid: 1.3688081078213725 14 True

$$f(x) = 3x^3 + 5x^2 - 7 \text{ on } [0, 1]$$

Bisection: 0.9451799988746643 23 True

Newton: 0 0 False

Secant: 0.9451800563938232 5 True

Hybrid: 0.9451800564209666 10 True