

turn 27.

$$f_0(t) = Q(t)$$

$$f_1(t) = \frac{dQ}{dt}$$

$$f_{i+1}(t) = -f_{i-1} \text{ mod } f_i$$

↳ remainder from division alg,
~~keeping root~~

$$f_{s+1} = 0$$

Define $V(t_0, f_1, \dots, f_s; a)$ to be the number of changes in \uparrow sign of:

$$f_0(a)$$

$$f_1(a)$$

$$f_2(a)$$

⋮

$$f_s(a)$$

(See example)

$$\# \text{ of } \wedge \text{ DISTINCT roots in } [a, b] = V(t_0, f_1, f_2, \dots, f_s; a) - V(t_0, f_1, f_2, \dots, f_s; b)$$

(as long as a, b are NOT roots)