

2.4B Finding Real Zeros of Polynomials

Types of Zeros

① Rational Zeros: (fractions/
whole #s)

Ex: $f(x) = 4x^2 - 9$

$$(2x-3)(2x+3)$$

$$2x-3=0$$

$$x = \frac{3}{2}$$

$$2x+3=0$$

$$x = -\frac{3}{2}$$

- Using synthetic division
- Factoring
- quad form

Irrational Zeros: (radical)

Ex: $x^2 - 2 = 0$

$$\sqrt{x^2} = \sqrt{2}$$

$$x = \pm\sqrt{2}$$

(Non-Real Zeros)

- quad form
- solve by hand

Find all possible rational roots &
determine if any are zeros.

EX: $f(x) = 1x^3 - 3x^2 + 1$

RRT: ± 1

$$(1)^3 - 3(1)^2 + 1$$

$$1 - 3 + 1 \neq 0$$

NONE

$$(-1)^3 - 3(-1)^2 + 1$$

$$-1 - 3 + 1 \neq 0$$

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$$f(x) = 6x^3 - 5x - 1$$

$$\text{RR: } \pm \frac{1}{1, 2, 3, 6} = \pm 1, \frac{1}{2}, \frac{1}{3}, \frac{1}{6}$$

$$6(1)^3 - 5(1) - 1$$

$$6 - 5 - 1 = 0 \quad \checkmark$$



