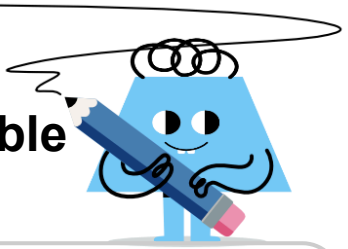
Name

Rational Root Theorem - List All Possible Rational Roots



1 $f(x) = 2x^4 - 2x^3 - 24x^2 + 56x - 32$

List all the possible rational roots of this polynomial.

A	B	C	D
$\pm\frac{1}{32}, \pm\frac{1}{16}, \pm\frac{1}{8}, \pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2$	$\pm\frac{1}{2}, \pm1, \pm2$	$\pm\frac{1}{2}, \pm1, \pm2, \pm4, \pm8, \pm16, \pm32$	$\pm1, \pm2, \pm4$

2 $f(x) = 4x^5 - 20x^4 + 4x^3 + 52x^2 - 8x - 32$

List all the possible rational roots of this polynomial.

A	B	C	D
$\pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2, \pm4, \pm8, \pm16, \pm32$	$\pm1, \pm2, \pm4$	$\pm\frac{1}{32}, \pm\frac{1}{16}, \pm\frac{1}{8}, \pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2, \pm4$	$\pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2, \pm4$

3 $f(x) = 3x^4 - 18x^3 + 24x^2 + 18x - 27$

List all the possible rational roots of this polynomial.

A	B	C	D
$\pm\frac{1}{3}, \pm1, \pm3$	$\pm\frac{1}{27}, \pm\frac{1}{9}, \pm\frac{1}{3}, \pm1, \pm3$	$\pm1, \pm3$	$\pm\frac{1}{3}, \pm1, \pm3, \pm9, \pm27$

4 $f(x) = 2x^5 - 2x^4 - 22x^3 - 14x^2 + 20x + 16$

List all the possible rational roots of this polynomial.

A	B	C	D
$\pm1, \pm2, \pm4$	$\pm\frac{1}{16}, \pm\frac{1}{8}, \pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2$	$\pm\frac{1}{2}, \pm1, \pm2$	$\pm\frac{1}{2}, \pm1, \pm2, \pm4, \pm8, \pm16$

5 List all the possible rational roots of this polynomial.

$$f(x) = 2x^3 + 10x^2 + 4x - 16$$

A	B
$\pm1, \pm2, \pm4$	$\pm\frac{1}{2}, \pm1, \pm2, \pm4, \pm8, \pm16$
C	D
$\pm\frac{1}{16}, \pm\frac{1}{8}, \pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2$	$\pm\frac{1}{2}, \pm1, \pm2$

6 $f(x) = 3x^4 - 6x^3 - 12x^2 + 6x + 9$

List all the possible rational roots of this polynomial.

A	B	C	D
$\pm\frac{1}{9}, \pm\frac{1}{3}, \pm1, \pm3$	$\pm\frac{1}{3}, \pm1, \pm3$	$\pm1, \pm3$	$\pm\frac{1}{3}, \pm1, \pm3, \pm9$

7 $f(x) = 2x^4 + 6x^3 - 16x^2 - 24x + 32$

List all the possible rational roots of this polynomial.

A	B	C	D
$\pm\frac{1}{2}, \pm1, \pm2$	$\pm1, \pm2, \pm4$	$\pm\frac{1}{32}, \pm\frac{1}{16}, \pm\frac{1}{8}, \pm\frac{1}{4}, \pm\frac{1}{2}, \pm1, \pm2$	$\pm\frac{1}{2}, \pm1, \pm2, \pm4, \pm8, \pm16, \pm32$

8 List all the possible rational roots of this polynomial.

$$f(x) = 5x^3 + 15x^2 - 5x - 15$$

A	B
$\pm\frac{1}{5}, \pm1$	$\pm1, \pm3$
C	D
$\pm\frac{1}{15}, \pm\frac{1}{5}, \pm\frac{1}{3}, \pm1, \pm\frac{5}{3}$	$\pm\frac{1}{5}, \pm\frac{3}{5}, \pm1, \pm3, \pm5, \pm15$