RATIONAL INEQUALITIES

One side, one fraction, compared with zero

Instead of multiplying by $x + 2$, whose sign changes, move everything to one side and combine it into a single fraction.

01

FRACTION COMPARED WITH 1 — BEFORE

$$\frac{x - 3}{x + 2} > 1$$

↓ Move everything to one side — subtract 1 from both sides

02

COMPARED WITH ZERO

$$\frac{x - 3}{x + 2} - 1 > 0$$

↓ Combine into a single fraction — over the common denominator x + 2

03

SINGLE FRACTION

$$\frac{x - 3 - (x + 2)}{x + 2} > 0$$

↓ Simplify the numerator — x − 3 − x − 2 = −5

04

READY FOR THE SIGN CHART

AFTER

$$\frac{-5}{x+2} > 0$$

READ THE SIGNS