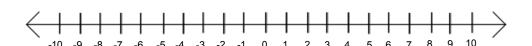
## Making a Sign Chart for a Rational Function $f(x) = \frac{(2x+1)}{(x+3)(x-1)}$



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## Rational Inequalities

goal: to find where the graph is (+) or (-) depending on the inequality sign (remember to flip sign if multiply or divide by (-)

- 1. Get everything on one side and zero on the other
- 2. Find LCD
- 3. Simplify the "everything" side into 1 fraction (not clearing
- fractions)
  4. Find x-intercepts plot with open or closed holes depending on inequality signs
- 5. Find excluded values (VA) plot with open holes on line or cross off undefined interval
- 6. Make a sign chart by testing points in each interval
- 7. Write answer in interval notation

Solve the rational inequalities

$$A) \frac{x-5}{(2x-3)(x+2)} \ge 0$$

$$B) \quad \frac{2x-1}{x-2} \ge 1$$

$$(-2x)$$
  $\frac{7-2x}{x+3} \le -2$ 

## Solve the rational inequalities

\*Never multiply both sides of an inequality by a variable!\*

$$\mathsf{D})\,\frac{x-2}{x} < \frac{x-4}{x-6}$$

$$E) \frac{1}{x+2} > \frac{3}{x+1}$$