



Understand the fraction and decide the original structure

Multiply both sides by the denominator

Choose:

Method A

sub an x into both sides (B repeat)

OR

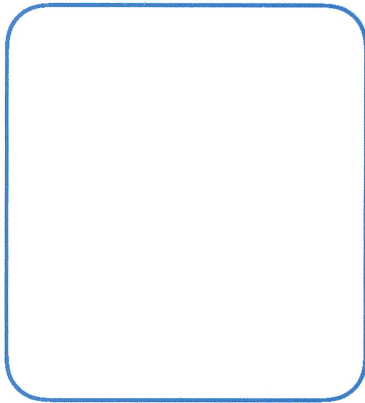
Method B

"EQUATE COEFFICIENTS"

x's on LHS

= # x's on RHS (etc)

CHECK !!



• Top same power as bottom

• Squared factor in the denominator

eg: $\frac{\dots}{(x+1)(x+2)^2}$

• Finish by

ALGEBRAIC TECHNIQUES

PARTIAL FRACTIONS

1	2	3	4	5
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Write $\frac{-x+4}{(2x+1)(x-1)}$ in partial fractions.

$$\frac{-x+4}{(2x+1)(x-1)} = \frac{A}{2x+1} + \frac{B}{x-1}$$

$$-x+4 = A(x-1) + B(2x+1)$$

sub in

$$-1+4 = A(0) + B(3)$$

$$3 = 3B$$

$$B = 1$$

Sub in

$$4 = A(-1) + B(1)$$

$$4 = -A + 1$$

$$A = -3$$

OR

$$-x+4 = Ax - A + 2Bx + B$$

$$-x = Ax + 2Bx$$

$$\begin{cases} -1 = A + 2B \\ 4 = -A + B \end{cases}$$

$$A = -3, B = 1$$

