

11.18.15

Simplify. State any restrictions on the variable.

$$\frac{6x^2 + 5x - 6}{3x^2 - 5x + 2}$$

$$6x^2 + 9x - 4x - 6$$

① Factor Numerator: GCF? NO

$$\begin{array}{r} a \cdot c \\ -36 \\ -4 \cdot 9 \\ + \\ 5 \cdot 6 \end{array}$$

$$\begin{array}{l} -36 \\ -1, 36 \\ -2, 18 \\ -4, 9 \end{array}$$

	$3x$	-2
$2x$	$6x^2$	$-4x$
3	$9x$	-6

Factored Form

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

$$(3x-2)(x-1)$$

② Factor Denominator

GCF? NO

$$\begin{array}{r} a \cdot c \\ 6 \\ -3 \cdot -2 \\ + \\ -5 \cdot 2 \end{array}$$

	x	-1
$3x$	$3x^2$	$-3x$
-2	$-2x$	2

③ Discontinuities in denominator
Set = 0

$$3x-2=0 \quad x-1=0$$

$$x = \frac{2}{3} \quad x = 1$$

④ Simplify

$$\frac{2x-3}{x-1}; x \neq \frac{2}{3} \quad x \neq 1$$