

SOLVING EQUATIONS

$$5(4-2x) = x - 3(2x-1)$$

$$20 - 10x = x - 6x + 3$$

$$20 - 10x = -5x + 3$$

$$-3 + 10x \quad +10x - 3$$

$$\frac{17}{5} = \frac{5x}{5}$$

$$\frac{17}{5} = x$$

$$\left[\frac{8}{3}x + \frac{3}{4} = \frac{5}{2}(3x-7) + 2 \right]$$

$$32x + 9 = 30(3x-7) + 24$$

$$32x + 9 = 90x - 210 + 24$$

$$32x + 9 = 90x - 186$$

$$-37x + 186 \quad -32x + 186$$

$$195 = 58x$$

$$\boxed{\frac{195}{58} = x}$$

More →

If solving & all x 's cancel:

$$\begin{array}{r} 2x + 3 = 2x - 7 \\ -2x \quad -2x \end{array}$$

$$3 = -7$$



Not possible

= no solution

$$\begin{array}{r} 2x + 8 = 2x + 8 \\ -2x \quad -2x \end{array}$$

$$8 = 8$$



Always possible

Solution: all real numbers

More →

If more than one variable:

Solve for g :

$$2f + 3g = 9 - 7g$$

$+7g$ $+7g$

$$2f + 10g = 9$$

$-2f$ $-2f$

$$\frac{10g}{10} = \frac{9-2f}{10}$$

$$g = \frac{9-2f}{10}$$

← cannot reduce
Unless ALL
#'s reduce
by the same
amount.

1) Move all terms
with g to one
side; everything
else to opposite
side