

## VALID CANCELLATIONS

IF  $a \times b = a \times c$ , then the multiplicative term,  $a$ , can be cancelled out if  $a \neq 0$ .

Example  $\cancel{2} \times x = \cancel{2} \times y \Rightarrow x = y$

In my video about solving

$$7x - 21 = x^2 - 3x$$

we found two solutions  $x = 7$  and  $x = 3$ .

that means that  $x - 3 = 0$

So, the cancellation

$$7(\cancel{x-3}) = x(\cancel{x-3}) \Rightarrow 7 = x$$

is an invalid cancellation.

Notice that cancelling by zero

we can get invalid conclusions like

$$2 \cdot \cancel{0} = 3 \cdot \cancel{0} \Rightarrow 2 = 3$$