## Spark Sequence

## Simplifying Expressions - Combining Like Terms

## $(5 c+13.78)-(3 c+9.09)$

What is the same what is different?
$(5 c+13.78)-(3 c+9.09)$

## $(5 c+13.78)-3 c-9.09$

What is the same what is different?

## $(5 c+13.78)-3 c-9.09$

$5 c-3 c+13.78-9.09$

What is the same what is different?


## $2 c+13.78-9.09$

## What is the same what is different?



Justify each step

# $(5 c+13.78)-(3 c+9.09)$ <br> $(5 c+13.78)-3 c-9.09$ <br> $5 c-3 c+13.78-9.09$ <br> $2 c+13.78-9.09$ 

$2 c+4.69$

## Spark Sequence

## Graphing Linear Equations From T-table



| $\mathbf{x}$ | y |
| :---: | :---: |
|  |  |
|  |  |
|  |  |
|  |  |



What is the same what is different?


What is the same what is different?


What is the same what is different?


What is the same what is different?


What is the same what is different?


Justify each step.


# Spark Sequence Completing the Square 

## $x^{2}-2 x-24=0$

What is the same what is different?

## $x^{2}-2 x-24=0$ $x^{2}-2 x=24$

What is the same what is different?

$$
\begin{aligned}
& x^{2}-2 x-24=0 \\
& x^{2}-2 x=24 \\
& x^{2}-2 x+\left(\frac{2}{2}\right)^{2}=24+\left(\frac{2}{2}\right)^{2}
\end{aligned}
$$

What is the same what is different?


What is the same what is different?

$x^{2}-2 x+1=24+1$
$(x-1)(x-1)=25$

What is the same what is different?

$(x-1)(x-1)=25$ $(x-1)^{2}=25$

What is the same what is different?

$$
\begin{aligned}
& x^{2}-2 x-24=0 \\
& x^{2}-2 x=24
\end{aligned}
$$


$(x-1)^{2}=25$

What is the same what is different?


## Justify each step

$$
\begin{aligned}
& x^{2}-2 x-24=0 \\
& x^{2}-2 x=24 \\
& x^{2}-2 x+\left(\frac{2}{2}\right)^{2}=24+\left(\frac{2}{2}\right)^{2} \\
& x^{2}-2 x+1=24+1 \\
& (x-1)(x-1)=25 \\
& (x-1)^{2}=25
\end{aligned}
$$

$$
(x-1)(x-1)=25 \quad \longrightarrow(x-1)= \pm 5
$$

