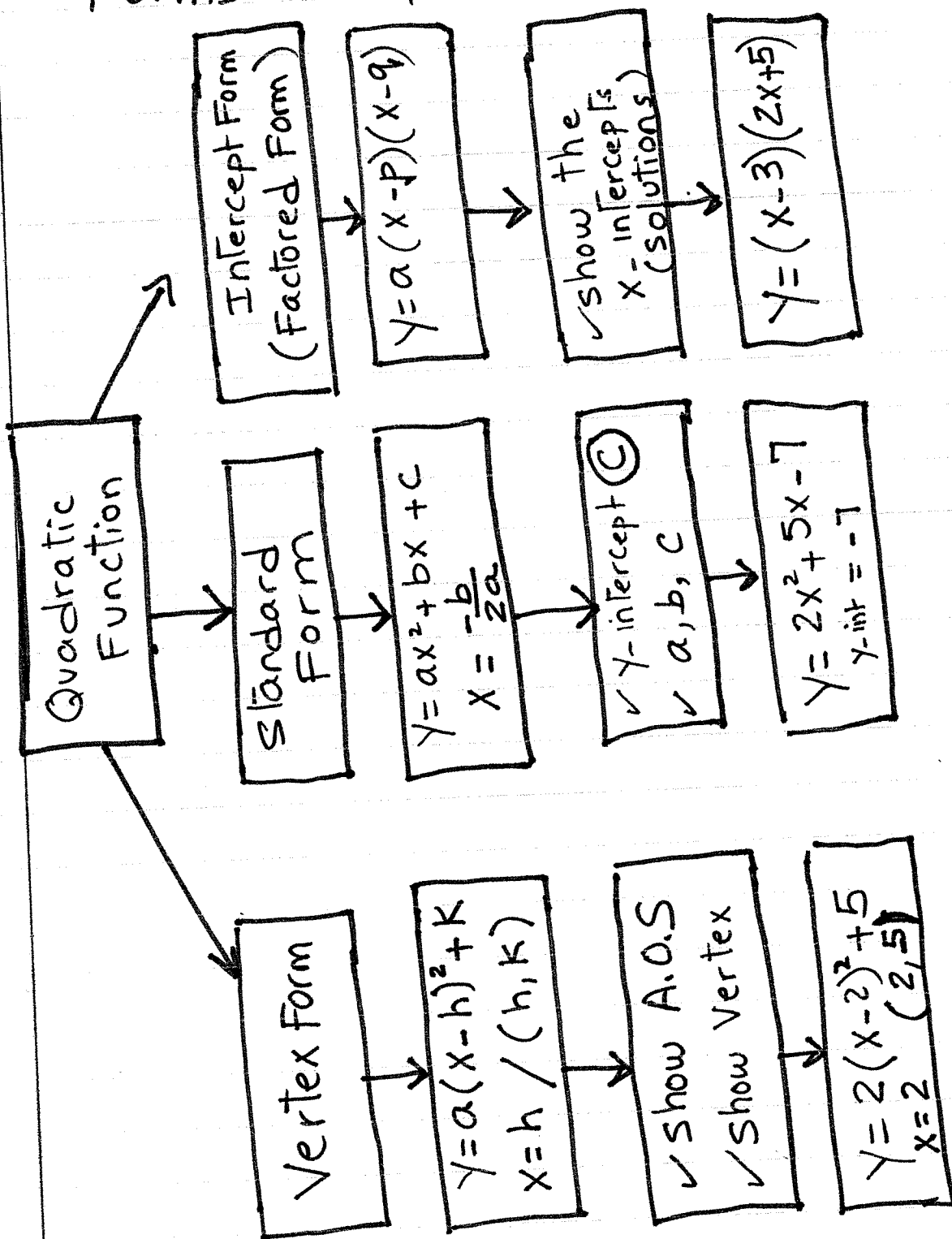


## Forms of Quadratic function



### Zero- Product Property

If  $(a)(b)=0$  then  $a=0$  or  $b=0$

If  $4(a)=0$  then  $a=0$

If  $5(b^2)=0$  then  $b=0$

$$\left( \begin{array}{c} \downarrow \\ 0 \end{array} \right) \text{ or } \left( \begin{array}{c} \downarrow \\ 0 \end{array} \right) = 0$$

### Example #1

Find the solutions for the quadratic equations

$$(x-4)(x+5)=0$$

$$(x-4)=0$$

$$\begin{array}{r} x-4=0 \\ +4 \quad +4 \\ \hline \end{array}$$

$$\boxed{x=4}$$

or

$$y=0$$

$$(x+5)=0$$

$$\begin{array}{r} x+5=0 \\ -5 \quad -5 \\ \hline \end{array}$$

$$\boxed{x=-5}$$

Two Solutions

### Example #2

Find the solutions for the quadratic equations

$$(x+3)(2x-1)=0$$

$$x+3=0$$

$$\begin{array}{r} x+3=0 \\ -3 \quad -3 \\ \hline \end{array}$$

$$\boxed{x=-3}$$

or

$$2x-1=0$$

$$\begin{array}{r} 2x-1=0 \\ +1 \quad +1 \\ \hline \end{array}$$

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

$$\boxed{x = \frac{1}{2}}$$

Two Solutions