- $4y = 128000 - 100000$
- $4y = 28000$
- $y = 7000$
- Then substitute the value of y into the first equation $x + (7000) = 25000$
- $x = 18000$
- Then write the statement:
- ∴Carol invested 18000 in bonds and 7000 in stocks

Barb ran 100 meters with the wind in 20 seconds and against the wind in25 seconds, find barb running speed and the wind speed

- Let x represent the speed she travelled with the wind and y the wind speed

- $\begin{cases} x + y = \frac{100}{20} \\ x - y = \frac{100}{25} \end{cases}$
- $\begin{cases} x + y = 5 \\ x - y = 4 \end{cases}$ simplify
- $\begin{cases} x = 5 - y \\ x - y = 4 \end{cases}$
- $(5 - y) - y = 4$
- $y = \frac{1}{2}$ *or* .5
- *Substitute*
- $x = 5 - .5$
- $x = 4.5$
- Then write the statement
- ∴ *Barb runs at* 4.5*meters per second* $\left(\frac{m}{s}\right)$ *and the wind speed is* $.5\frac{m}{s}$