

## Chp 5

### Problem Solving and Equations

## 5.1 Modeling Equations

### Equations in 2 variables

### Gym membership

Gold gym has an initial fee of \$75 plus a monthly fee of \$30

m	C
0	75
1	105
2	135
4	...

How long until  
the membership  
costs more than  
\$300

$$\begin{aligned} \downarrow \\ C &= 75 + 30m \\ 300 &= 75 + 30m \\ -75 &-75 \\ \hline 225 &= 30m \\ m &\geq 8 \\ &\text{at 8 months} \end{aligned}$$

$$D = r \cdot t$$

John has driven 100 of the 650 mile trip. If he averages 70 mph, how much longer will the trip take

$$\begin{aligned} 650 - 100 &= 70t \\ 550 &= 70t \\ 7\text{hrs } 50\text{mins} \end{aligned}$$

### Modeling a situation

If you need to save 3000 and have saved 1500 already. How many weeks will you need to save 50 in order to have the 3000

