2.5

A Problem-Solving Strategy

1. Analyze the Problem by reading it carefully to understand the given facts.
   What info is given?
   What are you asked to find?
2. Write an equation by picking a variable to represent the quantity to be found.
3. Solve the equation
4. State the conclusion
5. Check the result

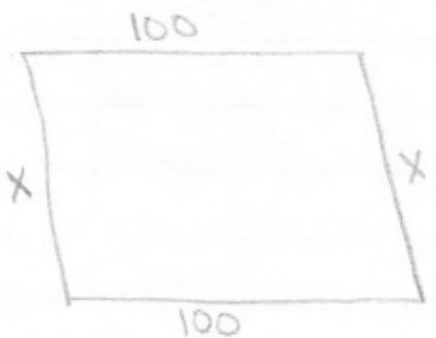
(ex) The maximum capacity for a restaraunt is 500 people. Your boss tells you that the restaraunt could hold 125 more people right now. How many people are in the restaraunt.

1. Max capacity is 500
   can hold 125 more
   looking for current capacity = x
2. $x + 125 = 500$
3. $x = 375$
4. There are 375 people in the restaraunt.
5. 375 people, 125 come in, now I have 500 people.

Drawing Diagrams

Sometimes a picture helps!

(ex) I get a new puppy so I want to fence in my yard (rectangular). I use 360 ft. of fence, I know that my yard is 100 ft. long, how wide is my yard.



1. looking for width = x, length = 100
2. $2(100)+2x=360$
3. $200+2x=360$
   $2x=160$
   $x=80$

the width of my yard is 80ft.

check $100+80+100+80=180+180=360$

Constructing Tables

Sometimes a table is helpful.

(ex) You started a company in 2000. In 2001, you added 8 employees; In 2002 you added 3 employees; In 2003 you lost 4 employees; In 2004 you added 5 employees. You had 30 employees at the end of 2004. How many did you start with?

Yr.	Employees
2000	x
2001	$x+8$
2002	$x+8+3$
2003	$x+8+3-4$
2004	$x+8+3-4+5$

x = # of employees you started with.

$x+8+3-4+5=30$

$x+12=30$

$x=18$

Check

2000	18
2001	26
2002	29
2003	25
2004	30 ✓