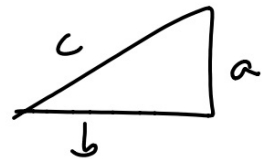


Basic Algebra 1.5

$$a^2 + b^2 = c^2$$

Use a four-step plan to solve problems



formula equation (relationship) pattern

commutative property $+$ \times

associative property

identity $(a+b)+c = a+(b+c)$

zero product property

Substitution $(\quad) \cdot (\quad) = 0$

distributive property

$$2(x+3) = 2x + 2 \cdot 3$$

$$2x + 6$$

table
guess & check

graph
order of ops

backwards
diagram
formula

What are some problem solving strategies?

Problem-Solving Strategies (plan)

Look for a pattern.

Draw a diagram.

Make a table.

Work backward.

Use an equation or
formula.

Make a graph.

Guess and check.

1. Explore

read, look for relationships

2. Plan

What to try

3. Solve

Execute the plan

4. Examine

Does it make sense?
(in this problem)

Science Use $F = 1.8C + 32$ to change degrees Celsius C to degrees Fahrenheit F . Find the temperature in degrees Fahrenheit if it is 29°C .

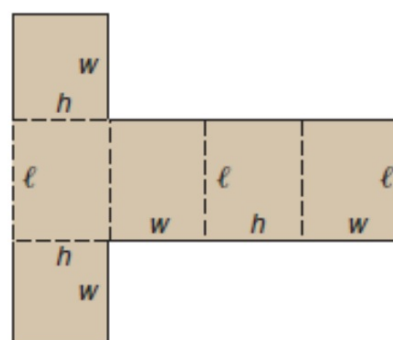
$$\begin{aligned} F &= 1.8(29) + 32 \\ &= 52.2 + 32 \\ &= 84.2^{\circ}\text{F} \end{aligned}$$

Hands-On Algebra

Materials:  rectangular box
 ruler

Step 1 Label the edges of a rectangular box ℓ , w , or h to represent the length, width, and height of the box.

Step 2 Take the box apart so that it lies flat on the table with the labels face up.



2 How many ways can you make 25¢ using dimes, nickels, and pennies?

✓ 25 pennies

5 nickels

✓ 2d + 1n

✓ 20p + 1n

1d + 1n + 10p

1n + 20p

2n + 15p

3n + 10p

1d + 15p

1d + 1n + 10p

4n + 5p

1d + 2n + 5p

2d + 5p

5n

2d + 1n

1d + 3n

(11)

**Getting Ready**

For each situation, answer the related questions.

Phoebe and Hai picked fourteen pints of raspberries in three hours. Hai picked five more pints than Phoebe.

Samples:

How many pints were picked in all?

How long did Phoebe and Hai work?

Who picked more pints?

If Phoebe picked x pints, how many did Hai pick?

Solutions:

14

3 hours

Hai

$x + 5$