In sections 1.1 and 1.2, you learned to recognize a pattern which helped you to get to a solution. In this section, problems are puzzle-like, logical, and mathematical. These are good practice to help you reason your way to a solution.

George Polya (1888-1985) proposed a four-step method for problem solving:

Step 1: Understand the problem
You cannot solve a problem if you do not understand it.
Read it several times and know what it is asking for.

Step 2: Devise a plan
There are many ways to attack and solve problems.
Start with one particular way and if it does not work, then find another way.

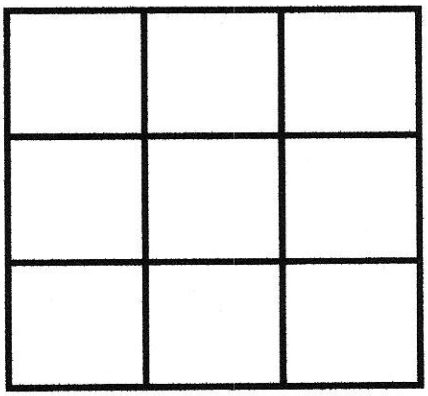
Step 3: Carry out the plan
If you get "stuck" or run into a "dead-end" then be persistent until you have reach a solution. You can even stop and come back to your problem.

Step 4: Look back and check
Did you answer the question?
Did your answer make sense?
Is it logical and reasonable?

Here are some problem solving hints to get you started:
Make a table or chart
Look for a pattern
Draw and label a sketch
Solve a similar problem but an easier one
Make an educated guess (inductive reasoning)
Write an equation and solve it
Use a formula
Work backward
Guess and check
Use trial and error
Use common sense

EXAMPLE:
How many squares (of any size)

are in the figure? 14

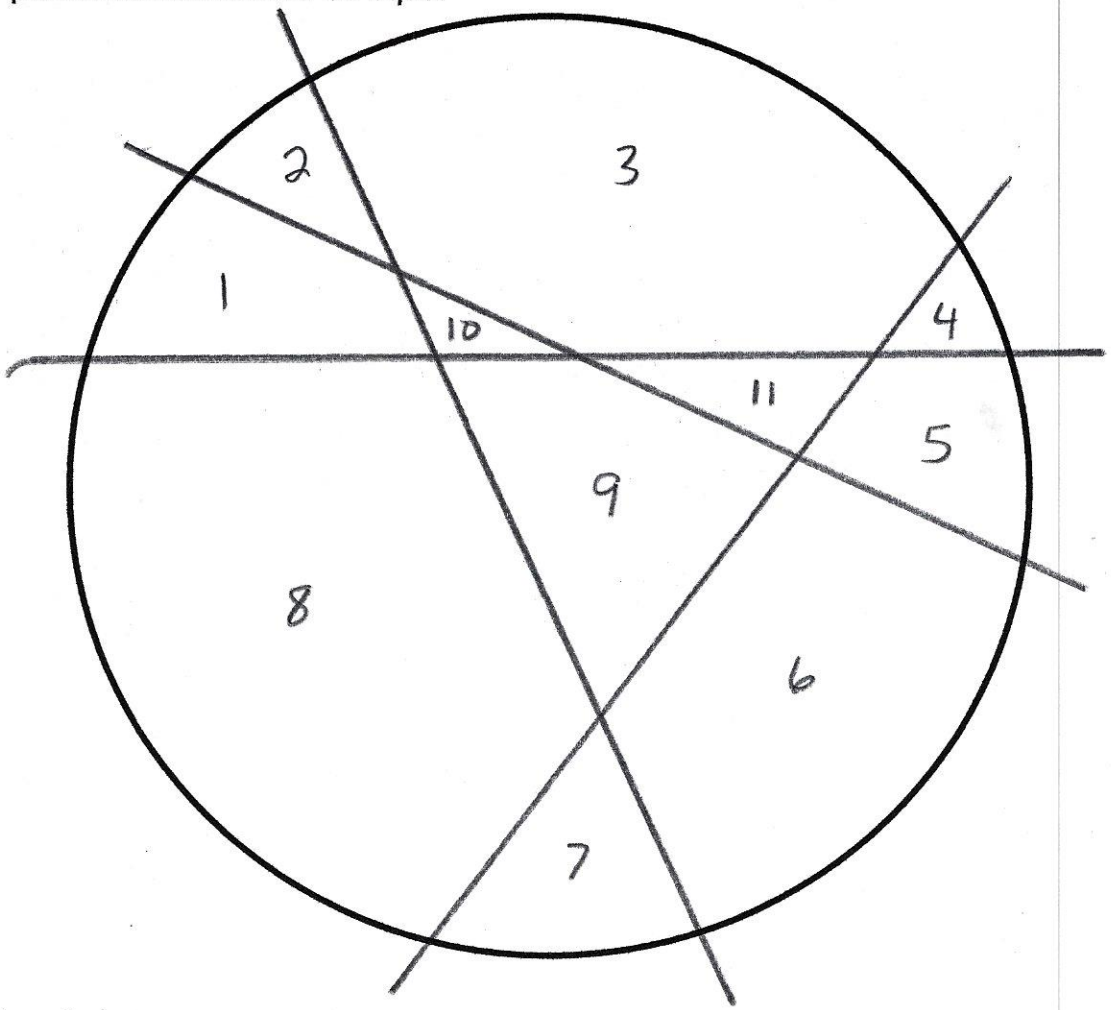


9 1x1 squares

4 2x2 squares

1 3x3 squares

EXAMPLE:
Divide the circle into 11 pieces using only 4 straight lines.
Hint: pieces do not have to be equal



Practice circles……