USING VISUAL MODELS TO UNDERSTAND AND SOLVE PROBLEMS

1. A man buys a CD player for $50 and sells it for $60. He buys the CD player back for
   $70 and then sells it again for $80.
   Did he earn or lose money and how much? Or did he come out even?
   Hint: Use rods to represent $10 bills. Assume the man starts out with $100. Begin
           with 10 rods and model the problem. Record the number of rods and dollar
           amounts below.

   Start   / / / / / / / / / / $ 100

   Buys

   Sells

   Buys

   Sells

   _____

2. A certain ruler which is supposed to be 12 inches long is warped and is actually just
   11 1/2 inches. If you measure off 4 feet of wood molding with this ruler, how long
   would the molding really be?

   Draw a sketch of the problem situation here -->
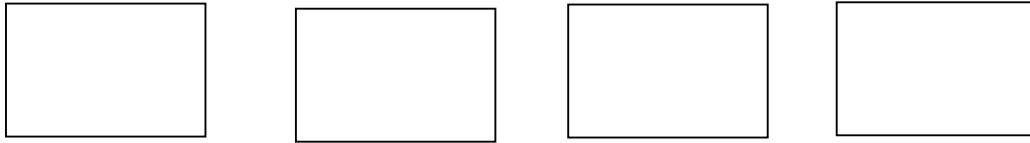
   Solve the problem here -->

   _____

3. Bryan can cut a log into 3 pieces in 6 minutes. At this rate, how long will it take him to
    cut a log into 12 pieces?

    Draw a sketch of the problem situation here -->

    Solve the problem here -->

    _____

4. A sheet of paper is folded in half. The folding process is repeated two additional times (a total of three folds). When the paper is opened, what pattern is formed by the resulting fold lines?

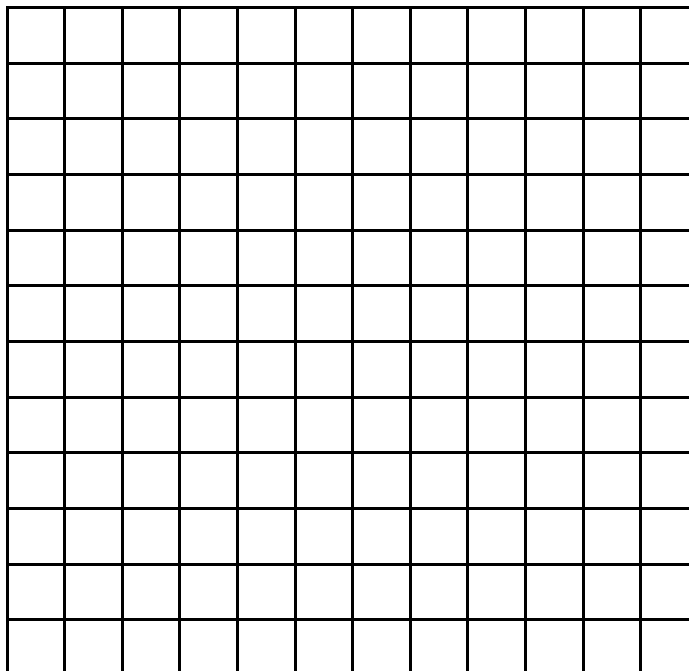   Use sketches to show each stage of your solution:

5. ORIENTEERING: Orienteering is a cross-country race, where competitors have to find the way, guided only by map and compass.

CATWALK*

It was a beautiful day and Alison decided to take her cat Zeus out for a walk. As long as she was going out, she thought she would run all the errands she had been putting off all week. First she headed for the drugstore, which was 3 blocks north of her house, to buy some shampoo and toothpaste. From there she went 2 blocks east to the dry cleaner's to pick up the skirt they'd been holding for her for 2 weeks. It was 4 blocks south to the grocer's, where she bought some yogurt for herself and some milk for Zeus, and then 5 blocks west to the hardware store to look for a can of Pale Lemon paint.
Two blocks south of the hardware store was the stationery store, where she bought a magazine and a box of paperclips. She then went 7 blocks east to stop at the post office to mail a package to her brother in California. Eight blocks north of the post office, Zeus began to get tired and looked at her imploringly. "Just one more stop," she said, "and then we'll go home for your catnap." They walked 4 blocks west to the pet store, where she got some catnip for Zeus as a reward for his patience.
Where are they? And how do they get home?

Hint: Use the grid to help find your solution.

* Maddux (1986)