Name:_____ Date:_____ Per:_____

Math Lab
Unit:__Problem Solving (1.5)__

Solve each problem with a partner. <u>Show or explain how you arrived at your answer.</u>

Running You run in a city where the blocks on north-south streets are 0.1 mile long. The blocks on east-west streets are 0.15 mile long. You start at Mt. Vernon Street and run 2 blocks east to Charles Street, turn right and run until you reach Blackburn Street.   You turn right again and run 2 blocks west until you reach Pond Avenue, then turn right and run back to your starting point. If you ran 2 miles total, how many blocks apart are Charles Street and Blackburn Street? (You must include a diagram.)

Newspaper Designer You are designing the layout for a newspaper about teen issues. The newspaper will be 22.5 inches wide. You plan to have 5 columns with 0.125 inch gaps between them and 0.375 inch margins on the left and right sides. How wide will each column be? Draw a picture to support your answer.

Book Cover You are making a leather book cover for an 18 inch by 11 inch book. Find the total cost of the piece of leather you will need if the cost of leather is $0.25 per square inch and you are covering the front and the back of the book.
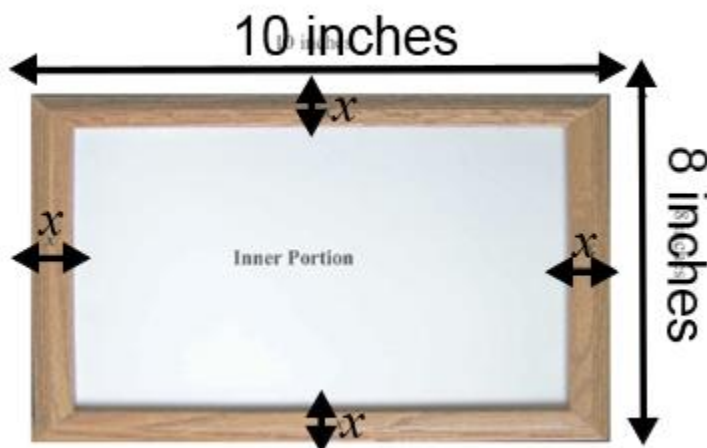
Backyard A builder lays sod on the lawns of new homes. The installed cost for sod is $0.38 per square foot. What is the cost of installing sod on a rectangular lawn that is 32 feet long and 18 feet wide?

Gardening A gardener determines the cost of planning daffodil bulbs to be $2.40 per square foot. How much will it cost to plan daffodil bulbs in a rectangular garden that is 12 feet long and 5 feet wide?

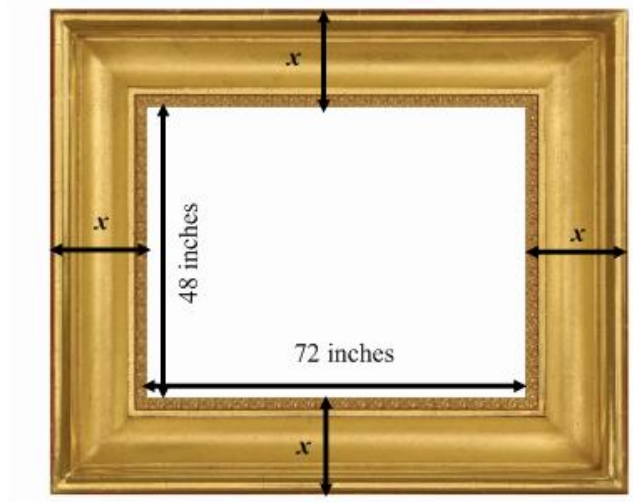**Hint for Frames and Wall Hangings: Use your pencil to highlight the desired portion before beginning.**

Frames The picture frame shown is 8 inches by 10 inches. The distance from the edge of the frame to the inner portion of the frame is the same on all sides.

   a) Write an **expression** to represent the length of the inner portion of the frame.

   b) Write an **expression** to represent the width of the inner portion of the frame.

Frames (2) The following picture frame has inner dimensions of 48 inches by 72 inches. The width from the edge of the picture frame to the inner portion is uniform all the way around.

a) Write an **expression** to represent the entire length of the picture frame.

b) Write an **expression** to represent the entire width of the picture frame.

Wall Hanging You want to hang the following wooden frame in your living room. It is designed to fit two pictures. Use the information from the diagram to:

a) Write an **expression** to represent the length of the entire frame.

b) Write an **expression** to represent the width of the entire frame.