Name _____ Date _____ Hour _____

Problem 3.1 – Rectangles with a Fixed Area

In recent years, the populations of many small towns have declined as residents move to large cities for jobs. The town of Roseville has developed a plan to attract new residents. The town is offering free lots of land to "homesteaders" who are willing to build houses. Each lot is rectangular and has an area of 21,800 square feet. The lengths and widths vary.

- ***What are some possible dimensions for a rectangular lot with an area of 21,800 square feet?***

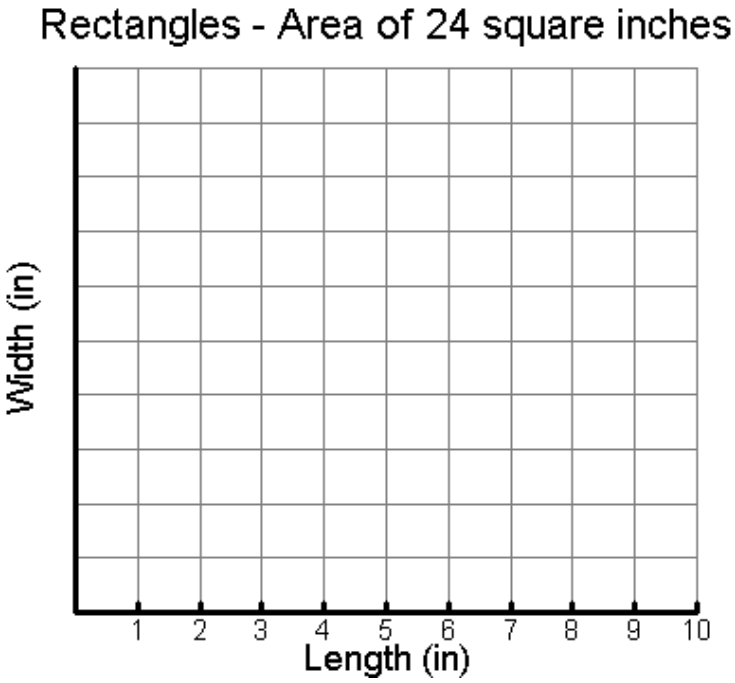
Relating Length and Width

A) 1) Copy and complete this table.

2) Plot your data on the grid. Then draw a line or curve that seems to model the pattern of the data.

Rectangles With an Area of 24 in.^{2}

Length	Width
1	
2	
3	
4	
5	
6	
7	
8	



Problem 3.1 – Rectangles with a Fixed Area

3) Is the relationship between length and width linear?

4) Describe the pattern of change in the width as the length increases

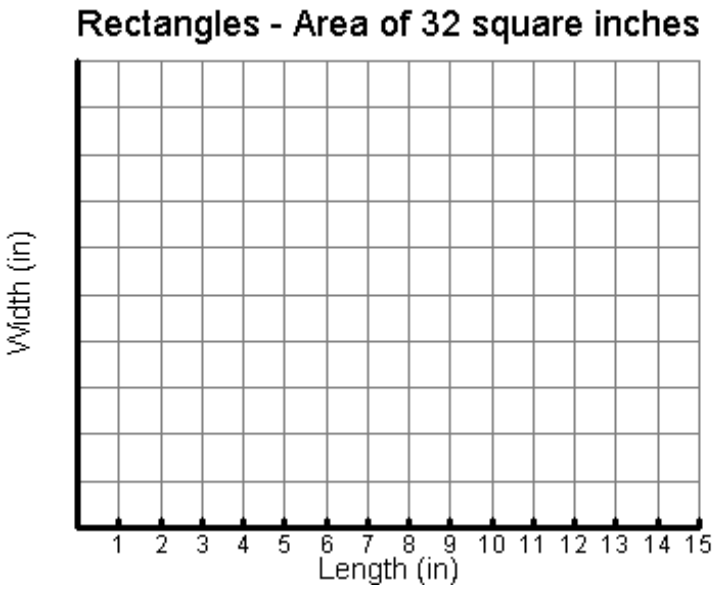
5) Write an equation that shows how the width *(W)* depends on the length *(L)* for rectangles for an area of **24 square inches**.

B) Now consider rectangles with an area of **32 square inches**.

1) Write an equation for the relationship between the length and the width.

2) Make a table and graph your equation showing lengths from 1 to 15 inches.

Length	Width
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	



Name _____ Date _____ Hour _____

Problem 3.1 – Rectangles with a Fixed Area

C) Compare your equations.

1) How are they similar?

2) How are they different?

D) Compare your graphs.

1) How are they similar?

2) How are they different?