Polly Gone

Level A

Polly works in a zoo and needs to build pens where animals can live and be safe.

The walls of the pens are made out of cubes that are connected together. Each section of fencing has a length of 1 cube.

Polly has 40 cubes and wants to make the largest rectangular pen possible, so the animals can move around freely but not get loose.

How can she use all 40 cubes to make the walls of the pen so that it has the greatest area for the animals? The walls must:

- Be fully enclosed, with no doors or windows, so Polly's animals can't get out (no gaps).
- Not overlap each other.

Help Polly by making several different-shaped pens and determine what pen provides the largest area for the animals. You might want to build the pen on the grid paper, so that it will be easier to determine the area.

Use the grid paper to show the shape of the pen. Explain to Polly why you believe your pen is the largest one that can be made.

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Manipulative for Level A—Grid paper