

DAYCARE CENTER PLAYGROUND

You have been hired by a day care agency to fence in an area to be used for a playground. You have been provided with 60 feet of fencing (in 4-foot sections) and a 4-foot gate. How can you put up the fence so the children have the maximum amount of space in which to play?

1. Try several different shapes that can be made with the fencing and calculate their areas. Make pictures of these shapes, including a scale drawing of the best shape.
2. Write a brief summary that describes which shape you think will have the largest area and why.
3. Imagine that the fencing is flexible, and can be made to bend. What shape would have the greatest area then?

[Source: A Collection of Performance Tasks & Rubrics: Middle School Mathematics, Eye on Education, Larchmont, NY]

SCORING GUIDE – Day Care Center

	Level One	Level Two	Level Three	Level Four
Approach	Approach is random; only one solution found.	Approach not very systematic, but several shapes are compared.	A systematic approach is possible to discern from the student work.	Highly systematic approach; well presented.
Accuracy	Many computational errors.	A number of computational errors; formulae correctly applied.	Very few computational errors; formulae correctly applied.	In addition, the work is neat and well presented.
Drawing	Sloppy and unclear; many errors.	Drawing is mostly clear; some errors in scale and/or labeling.	Drawing is clear and accurate, with the correct scale.	In addition, the drawing is neat and well presented.
Explanation	Unclear; no recognition of patterns in varying the area and perimeter.	Explanation hesitant; some recognition of patterns.	Clearly written; recognition of one aspect of relationship: number of sides or regularity.	In addition, recognition of both elements of relationship: number of sides and regularity.

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