


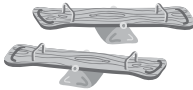




Animal Crackers Playground

NAME _____

Animal Crackers Preschool has recently accepted a donation of playground equipment. They would like to construct a new playground, but due to highway proximity it must be fenced in on all sides. The fund-raising committee has collected enough money to buy 200 feet of fencing that comes in 1-foot panels and includes an entrance gate.

Your job is to find the maximum area that can be formed with the available fencing and that can accommodate all the available equipment. In exploring this problem, use use-area dimensions, which include the amount of space around the specified equipment that safety regulations require. Once you have completed your task, you will present your information to the preschool playground committee. They will make a final recommendation to the school board.

EQUIPMENT & QUANTITY	ACTUAL SIZE	USE AREA
Spiral Slide 	7' x 15'	19' x 27'
Super Dome 	17' diameter	20' diameter
Teacup Merry-Go-Round 	6' diameter	12' diameter
Seesaws (2) 	2' x 12' each	4' x 12' each or 6' x 12' when placed next to each other
Swings 	8' x 5'	32' x 36'
Kids' Picnic Tables (2) 	4' x 4' each	5' x 5' each

Connect the ends of the string of 200 tickets together with a piece of tape. In this problem, each ticket represents one foot of fencing. Use your tickets and a calculator to explore possible rectangular areas that can be created.

1. What is the maximum area that can be created with 200 feet of fencing? What are the dimensions of this playground?

Cut pieces of graph paper to the given use-area dimensions to represent the playground equipment. Label each paper with the equipment name and dimensions.

2. Can all the equipment fit within a fenced-in playground with the dimensions and area you found above? If so, sketch a diagram of your playground. If not, change the dimensions of the 200-ft-long rectangular fence so the area is maximized and all the equipment fits. What are the new dimensions and maximum area? Sketch a diagram of your playground.
3. Why do you think there is a difference in the maximum area of a playground with no equipment compared to one that includes all the equipment?

Design a presentation to the committee, which will consist of your classmates. The presentation should convince them to recommend your design and plan to the school board. Construct a scale model of your playground on graph paper to be used and displayed during your presentation.

The presentation should address the following questions:

- How do you know you found the maximum area that will accommodate all the equipment?
- Why does your placement of the equipment allow for the maximum area possible?
- How did you construct your model? What scale did you use? Why?

During the presentation:

- Be as exciting and interesting as possible. Don't just stand up and read your findings. Include technology, extra graphics, etc.
- Include every member of your team. Each member must be able to justify their contribution to the group – just like on the reality shows at elimination time!