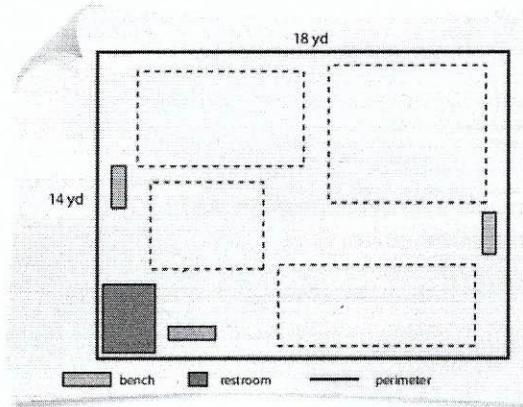


## 4.1 Honors

Name \_\_\_\_\_ Period \_\_\_\_\_

### Playground Design

You have been hired to design the layout of a playground. The city needs to purchase land for the playground. They plan to enclose the playground using fencing. The city has previously purchased 64 yards of fencing to be used for this purpose. Use the blueprints to aid your planning.



Use your knowledge of the areas of polygons to answer the questions.

1. How many square yards of land should the city purchase in order to build the playground?
2. The playground plans include a sandbox with an area of 16 square yards. Provide three possible shapes, including dimensions, for the sandbox.
3. For safety reasons, the entire ground of the new playground must be covered in mulch. Mulch costs \$25 per square yard. How much money should the city budget for the purchase of mulch?
4. A jungle gym will consume half of the total area of the playground. How much space will the jungle gym occupy?
5. The plans for the playground also include a swing set and a picnic area. A member of the city's planning committee suggests the purchase of a life-sized chess set. The chess set requires 60 square yards to set up. Should the city purchase the chess set? Explain your reasoning.
6. Use the information to sketch blueprints for the playground. Be sure to include each of the features described above.