

Integers and Exponents

RAISE THE ROOF

Embedded Assessment 1

Use after Activity 1.4.

Write your answers on notebook paper. Show your work.

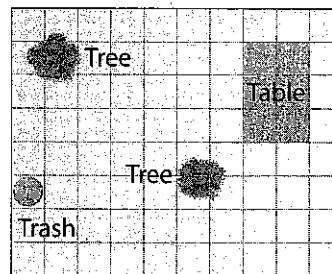
Camp Shady Groves is holding a summer campout. The campground is 160 feet long by 90 feet wide. The table at the right has the data used to determine the size tents needed for their campers. All tents at Shady Groves have square bases.

Number of Campers	Side Length of Square Base
1–2	7 ft
3–4	9 ft
5–7	11 ft
8–10	12 ft
11–12	15 ft

- There are 6 groups with 1–2 campers.
- There are 5 groups with 3–4 campers.
- There are 8 groups with 5–7 campers.
- There are 3 groups with 8–10 campers.
- There are 3 groups with 11–12 campers.

1. Write a note to the director of Camp Shady Groves to help her planning. Include the area of the campground, the area covered by the groups' tents, and the area that will be free for other activities. Be sure to show your work.

2. The Grizzly Group wants to bring its own tent. Its base has an area of 49 ft^2 . Use the map (at the right) of the area they have reserved to decide whether their tent will fit.



Each square on this grid represents 1 square foot.

3. Three camping groups are holding a fund raiser during the campout to buy a new water purifier and solar shower that cost a total of \$200. Campers will pay 50 cents a ticket to play games and buy snacks. Use the information below to determine how much money these three groups made or lost. Show your work.

- The Wolf Pack paid \$25 for the supplies to run their Water Game station. They sold 275 tickets.
- The Busy Bunch sold healthy treats. It cost them \$205 to make them. They sold 402 tickets.
- The Cougar Crew lost \$6 each of the three nights of the jamboree with their Pin The Tail on the Skunk game.

4. The record of expenses and income for this year's jamboree for the Organized Otters is shown at the right. How many tickets will the Organized Otters need to sell to make sure that the four groups earn the \$200 needed?

Expenses	Income
-20	25
-15	40
-45	50
-10	5
-8	25

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5. Members of the Granola Gang were popping popcorn over the campfire. Each packet was 2 in^3 before it was popped and doubled in size three times while popping.
- Show this increase as a product of the same factor.
 - Write this increase in both exponential and standard form
6. List the subsets of the real numbers used in this assessment.

	Exemplary	Proficient	Emerging
Math Knowledge # 1, 2, 6	The student correctly: <ul style="list-style-type: none"> Finds the area of the campground, the area covered by the groups' tents, and the area that will be free for other activities. (1) Determines using the map whether the Grizzly Group's tent will fit. (2) Lists the subsets of the real numbers used in the assessment. (6) 	The student attempts all three items answering only two questions correctly and completely.	The student is able to answer only one question correctly and completely.
Problem Solving #2, 3, 4	The student correctly: <ul style="list-style-type: none"> Determines the length of the side of the square given its area. (2) Determines how much money each group makes. (3) Finds how many tickets need to be sold to earn the \$200. (4) 	The student attempts all three items answering only two questions correctly and completely.	The student is able to answer only one question correctly and completely.
Representation #5	The student correctly: <ul style="list-style-type: none"> Shows the increase as a product of the same factor. (5a) Shows the increase in exponential and standard form. (5b) 	The student represents values in two of three forms: standard form, exponential notation, or as a product of the same factor.	The student represents values in one of three forms: exponential notation, standard form, or as a product of the same factor.
Communication #1	The student correctly explains how the area of the campground, the area occupied by the tents, and the remaining area were determined. (1)	The student explains how the area of the campground, the area occupied by the tents and the remaining area were determined, but explanation is incomplete.	The student's explanation contains conceptual misunderstandings.