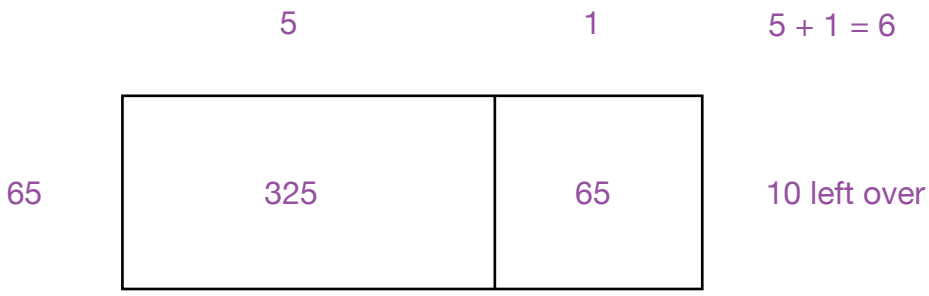
SAFETY RULES ARE THE BEST TOOLS

Planning the Safety Fair: Location

The following questions will help you decide where to hold your event.

You have a choice between two different locations for your fair. A crew of people will be provided at either location to help you to set up the fair and clean up after it is over. Your budget for the location is $400. Use repeated multiplication and subtraction to determine how many hours you could hold the fair at each location and stay within your budget. Then use an area model to check your calculations.

1. Location #1 is a grassy area at a local park. This location rents for $65 per hour.



400 – (65 x 5) = 75
75 – (65 x 1) = 10
5 + 1 = 6 with a remainder of 10

I know that ten 65s would be 650, so five 65s would be half of that, which is 325. After subtracting, I have 75 left, and there is only one 65 in 75, with a remainder of 10. We could rent this location for six hours.

2. Location #2 is the parking lot at the local high school. This location rents for $48 per hour.

	5	2	1	5 + 2 + 1 = 8
48	240	96	48	16 left over

400 – (48 x 5) = 160
160 – (48 x 2) = 64
64 – (48 x 2) = 16
5 + 2 + 1 = 8 with a remainder of 16

I know that ten 48s would be 480, so five 48s would be half of that, which is 240. After subtracting, I have 160 left. I know that two 48s is 96, because each 48 is 2 less than 50. I still have 64 left, which is one more 48. We can rent this location for eight hours.

3. Describe how the expression 65 x 6 + 10 relates to the expression 65 x (5 + 1) + 10.

The values of the expressions are the same. In the first expression, I would multiply 65 by 6 and then add 10 at the end. In the second equation I would add 5 + 1 first, since it is in parenthesis. Because (5 + 1) is the same as 6, I would end up multiplying 65 by 6 in the second expression too. After adding 10 at the end of the second expression, I would get the same answer for both expressions.

4. Interpret the expression 48 x 8 + 16 in words.

It means 16 more than the product of 48 and 8.

5. What is the cost to use each location based on the number of hours you determined were possible in question #1?

Location #1: $65 x 6 = $390
Location #2: $48 x 8 = $384

