

Three Rings

- Goals**
- Organize data in three-ring Venn diagrams.
 - Identify data relationships.
 - Use logical reasoning, addition, and subtraction to solve problems.

Notes You may want to supply students with small objects that they can use to represent the items described in the problems. Students can place the objects in the regions of the rings to check that their answers match the given information.

Solutions to all problems in this set appear on page 31.

Questions to Ask

Three Rings I

- What are the labels of the rings in the Venn diagram? (Large, 4 Holes, Brown)
- Where is the 10 located? (in the region where the three rings overlap) What does the 10 represent? (the number of buttons that are large, brown, and have 4 holes)
- How many regions are in the Large ring? (4)
- How many buttons are large? (21)
- What is the total number of buttons in Region A, Region B, and Region D? ($21 - 10$, or 11)
- How many buttons are in Region B? (1) How do you know? (There are 11 large buttons with 4 holes, and 10 large buttons with 4 holes that are brown, so the number of buttons that are large with 4 holes that are not brown is $11 - 10$, or 1.)

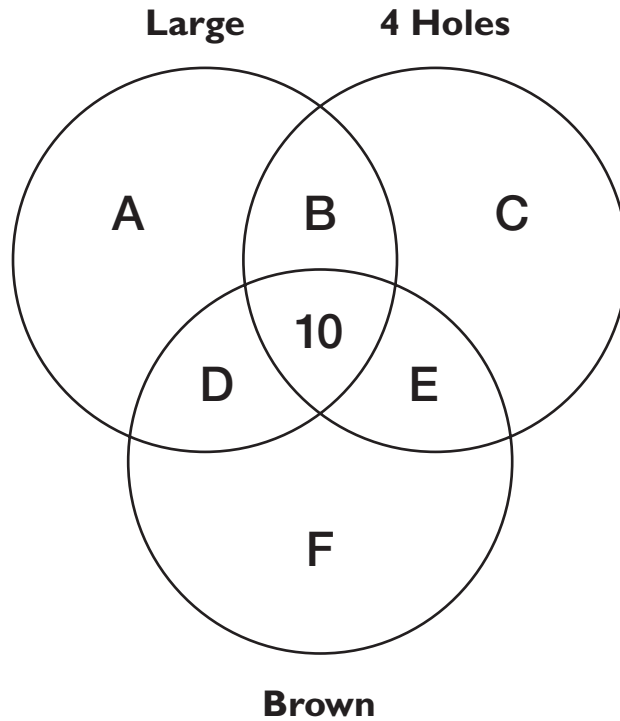
Solutions

- 7
- 1
- 6
- 3
- 2
- 1
- Possible answer: Region A = $21 - 10 - \text{Region B} - \text{Region D}$. Since Region B = $11 - 10$, or 1 and Region D = $13 - 10$, or 3, Region A = $21 - 10 - 1 - 3$, or 7.

Three Rings 1

Use the given information.

30 Buttons
21 large
19 with 4 holes
16 brown
13 large and brown
12 brown with 4 holes
11 large with 4 holes



1. How many buttons are in Region A? _____
2. How many buttons are in Region B? _____
3. How many buttons are in Region C? _____
4. How many buttons are in Region D? _____
5. How many buttons are in Region E? _____
6. How many buttons are in Region F? _____

7. How did you figure out the number of buttons in Region A?
