

# Three Rings

- Goals**
- Organize and interpret survey data using three-ring Venn diagrams.
  - Use logical reasoning to solve problems.

**Notes** Before students respond to the questions, suggest that they first figure out the numbers that belong in each of the regions. Beginning with the region shared by all three rings, and then considering regions that are shared by pairs of rings, will simplify the solution process.  
**Solutions to all problems in this set appear on page 31.**

**Questions to Ask**

**Three Rings I**

- How many people did not want to visit any of the three countries? (20) In which region will you write 20? (Region H)
- How many people would like to visit all three of the countries? (16) In which region will you write 16? (Region E)
- What does Region D represent? (people who would like to visit China and Vietnam but not Japan)
- How can you figure out the number to write in Region D? (There are 24 people who would like to visit China and Vietnam. These 24 people include the 16 people who would like to visit all three of the countries. So the number to write in Region D is  $24 - 16$ , or 8.)
- How many people would like to visit China? (74) Numbers in which regions total 74? (Regions A, B, D, and E)
- What does Region A represent? (the number of people who would like to visit only China)

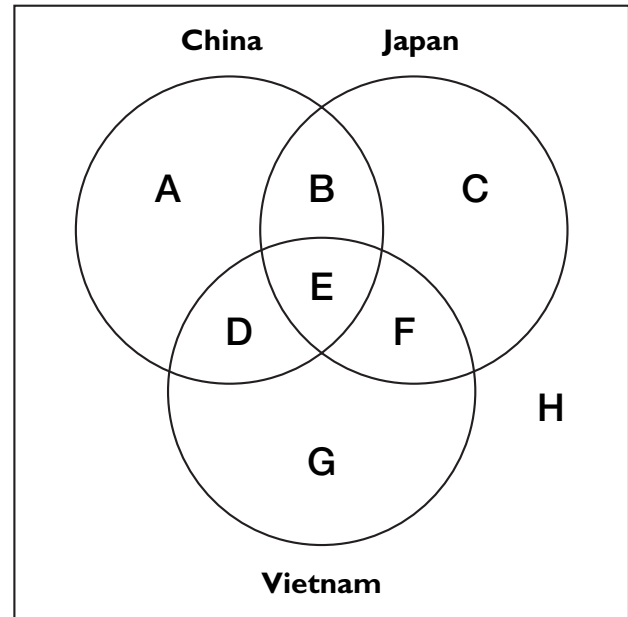
**Solutions**

1. 18
2. 40
3. 8
4. 50
5. 204

# Three Rings

David asked some people, “Which Asian countries would you like to visit?”

? People Responded
16 said all three countries
20 did not say any of the three countries
74 said China
94 said Japan
94 said Vietnam
34 said China and Japan
36 said Japan and Vietnam
24 said China and Vietnam



- How many people said China and Japan but not Vietnam? \_\_\_\_\_
- How many people said Japan but not China or Vietnam? \_\_\_\_\_
- How many people said China and Vietnam but not Japan? \_\_\_\_\_
- How many people said Vietnam but not China or Japan? \_\_\_\_\_
- How many people were surveyed? \_\_\_\_\_