MAKE A PICTURE OR DIAGRAM

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It is the first annual Fretters’ Convention, and musicians from all over the country have assembled to play their instruments. There will be concerts, contests, and jam sessions. Lizzy has come with her father, who is an amateur musician. Lizzy is milling about, looking at the musicians’ plastic name tags, which are shaped like guitars, banjos, and ukeleles. She notices that 170 people at the convention play the guitar, 185 play the banjo, and 97 play the ukelele. Nineteen play no instrument at all, but are there just for the fun, like her. She observes that 87 people play guitar and banjo, 42 play ukelele and guitar, 48 play banjo and ukelele, and 36 people play all three instruments. How many people in all are attending the Fretters’ Convention?

FIND OUT
• What is the question you have to answer?
• How many of the people play guitar? Banjo? Ukelele?
• How many play guitar and banjo? How many play guitar and ukelele? How many play banjo and ukelele? How many play no instrument? How many play all three?

CHOOSE A STRATEGY
• Is there a kind of diagram that can help you organize the information in this problem?

SOLVE IT
• If you make a Venn diagram, how many circles will you have to draw? What will you label each circle? Must they intersect? Why or why not?
• How many people play guitar? Where will you place that number? How many play guitar, banjo, and ukelele? Where will you place that number? How many play just guitar and banjo? Where will you place that number? How many play just guitar and ukelele? Where will you place that number? Then how many play just the guitar? Where will you place that number?
• Keep filling in your diagram to find out how many people are attending the Fretters’ Convention.

FORMAT
1. Understand
2. Choose
3. Try
4. Get
5. Explain