

Math/Numeracy Example

Sample Question List

- What is the story in this problem about?
- What is the problem asking?
- What do I know about the problem so far? What information is given to me? How can this help me?
- Which information in the problem is relevant/
- In what way is this problem similar to problems I have previously solved?
- What are the various ways I might approach the problem?
- Is my approach working? If I am stuck, is there another way I can think about solving this problem?
- Does the solution make sense? How can I verify the solution?
- Why did these steps work or not work? What would I do differently next time?

Task List

- Identify the givens and goals of the problem.
- Identify the problem type.
- Recall similar problems to help solve the current problem.
- Use a visual to represent and solve the problem.
- Solve the problem.
- Check the solution.

One Way of Thinking Aloud

Problem

Monica and Bianca went to a flower shop to buy some roses. Bianca bought a bouquet with five pink roses. Monica bought a bouquet with two dozen roses, some red and some yellow. She has three red roses in her bouquet for every five yellow roses. How many red roses are in Monica's bouquet?"

Solution

I know this is a ratio problem because two quantities are being compared: the number of red roses and the number of yellow roses. I also know the ratio of the two quantities. There are three red roses for every five yellow roses. This tells me that I can find more of each kind of rose by multiplying.

I reread the problem and determine that I need to solve the question posed in the last sentence: "how many red roses are in Monica's bouquet?" because the question is about Monica, perhaps I don't need the information about Bianca. The third sentence says there are two dozen red and yellow roses. I know that makes 24 red and yellow roses, but I still don't know how many red roses there are. I know there are three red roses for every five yellow roses. I think I need to figure out how many red roses there are in the 24 red and yellow roses.

Let me reread the problem...that's correct, I need to find out how many red roses there are in the bouquet of 24 red and yellow roses. I can draw a diagram that helps me understand the problem. I've done this before with ratio problems. These kinds of diagrams show the relationship between the two quantities in the ratio.

