Another Look!

A cooking class needs 20 quarts of raspberries. The instructor, Mr. Romano, made a line plot to show how many quarts of raspberries each student picked at a raspberry farm. Then he said, "We need another $\frac{3}{4}$ quart." He showed the class:

$$(2 \times 3) + 3\frac{1}{4} + \left(2 \times 3\frac{3}{4}\right) + 4\frac{1}{4} =$$
$$6 \quad + 3\frac{1}{4} + \quad 5\frac{3}{4} \quad + 4\frac{1}{4} = 19\frac{1}{4}.$$

Raspberries Picked

Quarts
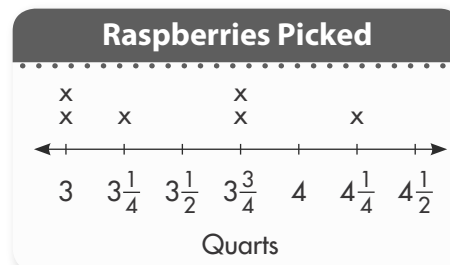
Tell how you can critique Mr. Romano's reasoning.

- I can decide if his strategy makes sense.
- I can look for flaws in his calculations.
- I can clarify or correct his reasoning.

Critique Mr. Romano's reasoning.

When you critique reasoning, you explain why someone's thinking is correct or incorrect.

Mr. Romano's strategy makes sense, but he made a careless mistake in his calculations. $\left(2 \times 3\frac{3}{4}\right) = 7\frac{1}{2}$, not $5\frac{3}{4}$. So, the class picked $6 + 3\frac{1}{4} + 7\frac{1}{2} + 4\frac{1}{4} = 21$ quarts. They have enough raspberries.
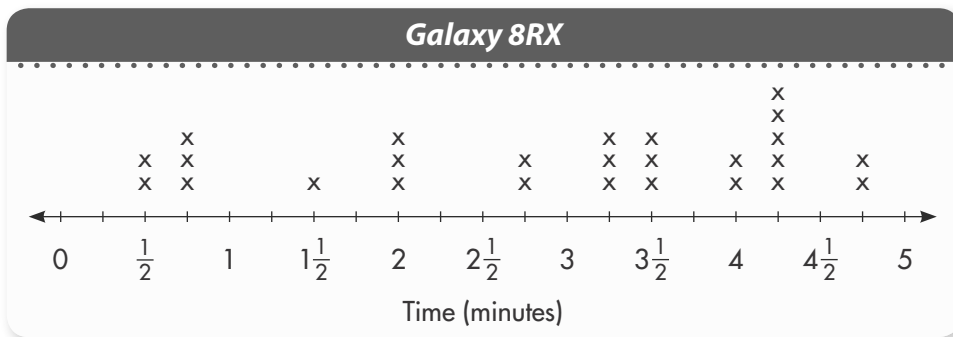
Critique Reasoning

Gillian said that if all the students and Mr. Romano had each picked just $2\frac{1}{2}$ quarts of raspberries, they would have had enough. She estimated $7 \times 3 = 21$.

1. Tell how you can critique Gillian's reasoning.

2. Critique Gillian's reasoning.

3. Identify the flaw in Gillian's thinking.

Video Game

Lydia is playing *Galaxy 8RX*. After three misses, the game is over. Last week, Lydia kept track of how long her games lasted. She made a line plot of her data. Lydia said, "My best time is $2\frac{3}{4}$ minutes longer than my worst time because $4\frac{1}{4} - 1\frac{1}{2} = 2\frac{3}{4}$."

Galaxy 8RX

```
                                              x
                                              x
                                              x
          x              x              x  x  x
       x  x              x        x      x  x     x  x     x
       x  x        x     x        x      x  x     x  x     x
    ┣━━━┿━━━┿━━━┿━━━┿━━━┿━━━┿━━━┿━━━┿━━━┿━━━┿━━━▶
    0   ½   1   1½   2   2½   3   3½   4   4½   5
                    Time (minutes)
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4. Model With Math Is subtraction the correct operation to compare Lydia's best and worst times? Explain.

5. Be Precise Are Lydia's calculations accurate? Show how you know.

> When you critique reasoning, you need to carefully consider all parts of a person's reasoning.

6. Make Sense and Persevere In the line plot, what do the numbers Lydia subtracted represent?

7. Critique Reasoning Does Lydia's conclusion make sense? How did you decide? If not, what can you do to improve her reasoning?