

Conditional Probability Changes the Reference Group



Use the matching sheet ID when checking answers.

Use the material to work through each task. Show the requested response.

1. How many parts are flagged?

Answer: 26

2. What fraction of all parts are both defective and flagged?

Answer: $8/100 = 2/25$

3. Among flagged parts, what fraction are defective?

Answer: $8/26 = 4/13$

4. Among defective parts, what fraction are flagged?

Answer: $8/10 = 4/5$

5. Why are the last two fractions different?

Look for:

- Identifies both denominators.

One possible response: They condition on different groups: flagged parts versus defective parts.

6. Does a flag guarantee a defect in this invented table?

Look for:

- Uses the table rather than treating the flag as certainty.

One possible response: No. Eighteen flagged parts are not defective.

Open responses use criteria and an illustrative response. Other well-supported responses can be acceptable.