Worked answers | Statistics

Checking data claims in the media

6 questions | 11 marks

Equivalent correct methods earn the corresponding marks.

1. A report says all 30 students chose apples, but its table records 24 apples and 6 pears. Is the report correct? [1 mark]

The six pear choices contradict the word all.

Answer: No. Twenty-four chose apples, not all 30.

2. A shop says 9 of 10 surveyed customers liked a product. What important group should the claim name? [2 marks]

The claim should not be extended to every person or every customer without evidence.

Answer: The surveyed customers.

3. A chart begins its vertical axis at 90 and shows values 96 and 100. What is the actual difference? [2 marks]

Subtract the values: $100 - 96 = 4$.

Read the scale instead of judging the visible bar lengths.

Answer: 4.

4. Compare 6 of 10 students with 6 of 20 students as percentages. [2 marks]

$6/10 = 60/100$.

$6/20 = 30/100$.

Answer: 60% and 30%.

5. A table shows more ice creams sold on hotter days. Does this alone prove buying ice cream makes the weather hotter? [2 marks]

The table shows the quantities vary together.

It does not show that ice-cream purchases cause hotter weather.

Answer: No.

6. A class asked only students arriving by bicycle whether the school needs more bicycle racks. Suggest one way to improve the evidence. [2 marks]

The original group is likely to have particular views about bicycle racks.

A broader group makes the limitations clearer. Other reasonable improvements are acceptable.

Answer: Ask a wider set of students, including people who arrive by other methods.