LESSON MAKER PRO

Report Reality Check

Use sample data to judge a claim.

HIGH SCHOOL · HSS-IC.B.6

CCSS.Math.Content.HSS-IC.B.6 "Evaluate reports based on data."

NAME _____ DATE _____

CHECK THE EVIDENCE

A sample percentage is the number in one group divided by the total sampled, times 100. A report is stronger when the sample is random and large enough, and when its claim matches the sample result.

WORKED EXAMPLE

A random survey of 90 students finds that 63 bring lunch from home. Does the report, "About 70% bring lunch from home," match the data?

1. 63/90 = 7/10
2. 7/10 x 100 = 70%
3. The report matches the sample result.

Answer: Yes, the sample supports about 70%.

PRACTICE 5 problems

1 A random sample of 40 students includes 26 who prefer digital tickets. A report says, "65% prefer digital tickets." Evaluate the report.

ANSWER _____

2 In a random survey of 120 students, 78 say they use the library after school. Does the sample support the claim, "More than half use the library after school"?

ANSWER _____

3 A survey asks 25 students at a basketball game whether school should start later. Twenty say yes. Can the result represent all students?

ANSWER _____

4 A random sample of 200 students includes 94 who want a longer lunch period. A report says, "More than half want a longer lunch." Evaluate the report.

ANSWER _____

5 A school posts an online poll, and 18 volunteers respond. Can the results represent the whole school well?

ANSWER _____

APPLY IT Show your work

1 The student council randomly surveys 150 students about a new spirit week. Ninety-six students want the event. A flyer says, "About 64% of students want spirit week." Evaluate the flyer.

WORK SPACE

ANSWER _____

2 To plan a school concert, organizers randomly survey 160 students. Seventy-two say they would attend a Friday concert. An announcement says, "Most students would attend." Evaluate the announcement.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Survey A randomly selects 28 students, and 19 support adding charging stations. Survey B randomly selects 220 students, and 132 support them. Which survey gives stronger evidence for a school report, and what percentage should the report use? Explain.

WORK SPACE AND ANSWER

ANSWER KEY

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PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	A random sample of 40 students includes 26 who prefer digital tickets. A report says, "65% prefer digital tickets." Evaluate the report.	**Supported by the sample, because 26/40 = 65%.**
2	In a random survey of 120 students, 78 say they use the library after school. Does the sample support the claim, "More than half use the library after school"?	**Yes. 78/120 = 65%, which is more than half.**
3	A survey asks 25 students at a basketball game whether school should start later. Twenty say yes. Can the result represent all students?	**No. Students at a basketball game may not be a representative sample of all students.**
4	A random sample of 200 students includes 94 who want a longer lunch period. A report says, "More than half want a longer lunch." Evaluate the report.	**Not supported. 94/200 = 47%, which is less than half.**
5	A school posts an online poll, and 18 volunteers respond. Can the results represent the whole school well?	**No. Volunteers are self-selected, so the sample may be biased.**

PART 2 · APPLY IT

1. **Supported by the sample, because 96/150 = 64%.** Divide 96 by 150 to get 0.64, or 64%. The random sample result matches the flyer.
2. **Not supported by the sample, because 72/160 = 45%.** Divide 72 by 160 to get 0.45, or 45%. Since 45% is less than half, it is not most students.

CHALLENGE

Survey B gives stronger evidence because it has the larger random sample. The report should use 132/220 = 60%.

Accept equivalent fraction, decimal, and percent forms when correct. For evaluation items, accept answers that identify both the matching calculation and any sampling bias.