

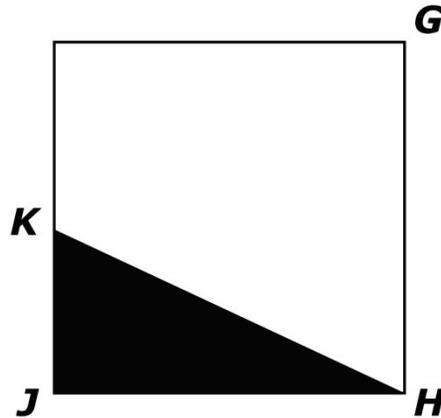
Grade 4 Mathematics Sample ER Item Claim 2



MAT.04.ER.2.000MD.A.049 Claim 2

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| Sample Item Id: | MAT.04.ER.2.000MD.A.049 |
| Grade: | 04 |
| Primary Claim: | Claim 2: Problem Solving Students can solve a range of well-posed problems in pure and applied mathematics, making productive use of knowledge and problem-solving strategies. |
| Secondary Claim(S): | Claim 1: Concepts and Procedures Students can explain and apply mathematical concepts and carry out mathematical procedures with precision and fluency. |
| Primary Content Domain: | Measurement and Data |
| Secondary Content Domain(S): | |
| Assessment Target(S): | 2 A: Apply mathematics to solve well-posed problems arising in everyday life, society, and the workplace. 2 B: Select and use appropriate tools strategically. 1 K: Geometric measurement: understand concepts of angle and measure angles. |
| Standard(S): | 4.MD.6, 4.MD.7 |
| Mathematical Practice(S): | 1, 2, 4, 5, 6 |
| DOK: | 2 |
| Item Type: | ER |
| Score Points: | 3 |
| Difficulty: | M |
| Key: | See Sample Top-Score Response. |
| Stimulus/Source: | |
| Target-Specific Attributes (E.G., Accessibility Issues): | |
| Notes: | Multi-part item; requires use of online protractor. First two response boxes allow up to 3 numeric entries and no degree symbol. |

Look at the figure below.



Use the online protractor to measure angle KHJ in degrees.

Click in the box and then type the measure of angle KHJ .

degrees

The measure of angle GHJ is 90 degrees. Use the measure of angle GHJ to find the measure of angle GHK , in degrees.

degrees

In the space below, use pictures, numbers, and/or words to show how you found the measure of angle GHK .

Sample Top-Score Response:

25

65

I know that the measure of angles KHJ and GJK should add up to be the same measure as angle GKJ . If angle GKJ has a measure of 90° , then the other two angles together have to have that measure. I subtracted 25° from 90° to get 65° . I could also use these equations: $90 - 25 = 65$ or $65 + 25 = 90$.

Scoring Rubric:

Responses to this item will receive 0-3 points, based on the following:

- 3 points:** Student has thorough understanding of measuring angles in whole-number degrees using a protractor and recognizing angle measure as additive. The student completes the following:
- Writes 25 for the measure of angle KHJ (+/- 2 degrees).
 - Writes 65 for the measure of angle GKJ (+/- 2 degrees).
 - Writes a thorough and correct explanation of reasoning, as shown in Sample Top-Score Response.
- 2 points:** Student has partial understanding of measuring angles in whole-number degrees using a protractor and recognizing angle measure as additive. The student completes the first 2 bullets, but provides an explanation of reasoning that is incomplete or incorrect. **OR** The student makes a mistake in the first bullet, writes a correct measure for angle GKJ incorporating this incorrect angle measure, and provides a thorough and correct explanation of reasoning.
- 1 point:** The student has limited understanding of measuring angles in whole-number degrees using a protractor and recognizing angle measure as additive. The student correctly completes only the first bullet.
- 0 points:** Shows little or no understanding of measuring angles in whole-number degrees using a protractor and recognizing angle measure as additive.