



**THIRD SPACE
LEARNING**

Error Analysis

Fractions

2nd Grade

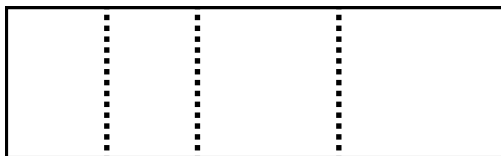
Instructions

A student has been given a set of questions to answer. They tried their best but think they have got some answers wrong.

Go through the work and check the answers. Help the student understand their errors by explaining what they did wrong or how to find the correct answer (there are prompts below the questions to help you).

Note that you will not always be asked to provide the correct answer.

- 1 Partition the rectangle into fourths.

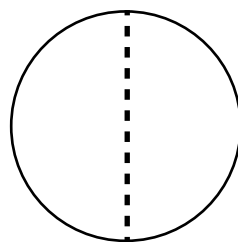


This answer is: ☐ Correct ☐ Incorrect

Explain why the student's model is correct or incorrect.

- 2 Fill in the blank to make the sentence true.

The circle is split into halves.



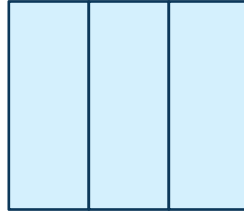
This answer is: ☐ Correct ☐ Incorrect

Explain why the student is correct or incorrect.

- 3 Fill in the blank to make the sentence true.

_____ thirds make one whole.

Use the diagram to help you.

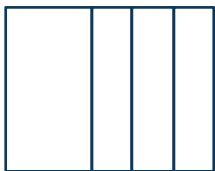
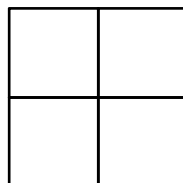
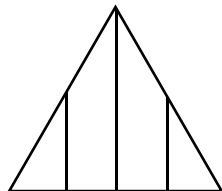
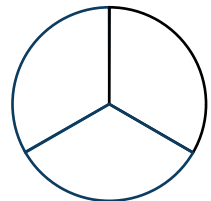


This answer is: ☐ Correct ☐ Incorrect

Two

If incorrect, what should the answer be? Explain.

- 4 Check the shape that is split into 4 equal shares.

☐☐☐

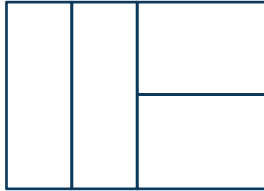
This answer is: ☐ Correct ☐ Incorrect

Explain how you know when a shape is split into equal shares.

- 5 Allie says the rectangle is split into fourths because the 4 parts are the same size.

Nolan says they are **not** split into fourths because the 4 parts are different shapes.

Who is correct?

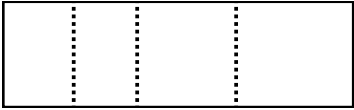
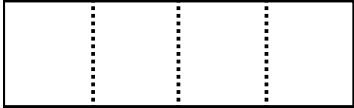
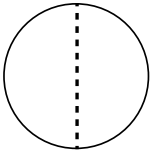
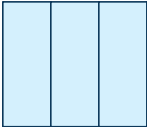


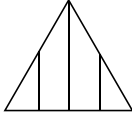
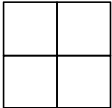
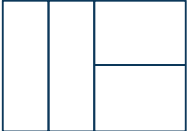
This answer is: ☐ Correct ☐ Incorrect

Nolan

If incorrect, what should the answer be? Explain.

Answers

Question Number	Question	Answer
1	Partition the rectangle into fourths. Given answer:  Explain why the student's model is correct or incorrect.	Incorrect The rectangle is split into 4 parts, but the 4 parts are not of equal size. Therefore, the student did not partition the rectangle into fourths. Correct answer:  Students need to understand that a model showing fourths must have 4 equal parts.
2	Fill in the blank to make the sentence true. The circle is split into ____. Given answer: halves  Explain why the student is correct or incorrect.	Correct The circle is split into 2 equal parts. When a shape is split into 2 equal parts, each part is one-half of the whole shape. So we can say that the circle is split into halves.
3	Fill in the blank to make the sentence true. _____ thirds make one whole. Use the diagram to help you.  Given answer: Two If incorrect, what should the answer be? Explain.	Incorrect A shape that is split into thirds has 3 equal parts. All 3 of those parts together make one whole. Similarly, 2 halves and 4 fourths also equal one whole. Correct answer: Three The diagram shows a shape split into 3 equal parts, or thirds, with all 3 parts shaded in. This proves that 3 thirds equals one whole.

Question Number	Question	Answer
4	Check the shape that is split into 4 equal shares.  ☐  ☐  ☐  ☐ Given answer:  ☒ Explain how you know when a shape is split into equal shares.	Incorrect The student chose a shape that was partitioned into 4 parts, but the parts are not equal. Correct answer:  ☒ A shape is split into equal shares when each of the shares is the same size; the shares must take up the same amount of space of the whole shape.
5	Allie says the rectangle is split into fourths because the 4 parts are the same size. Nolan says they are not split into fourths because the 4 parts are different shapes.  Who is correct? If incorrect, what should the answer be? Explain.	Incorrect The student thinks Nolan is correct in thinking that the parts are different shapes so they must not be equal shares. However, a shape is split into equal shares when each part has the same area, even if the parts are not the same shape. Correct answer: Allie The rectangle is split into four parts. You can see the two vertical parts are equal in size and shape and the two horizontal parts are equal in size and shape. Since the vertical and horizontal parts each take up half of the shape, you can conclude that each part is a fourth of the whole shape.

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Michelle Craig, Instructional Coach,
Sherwood Forest Elementary, Washington

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