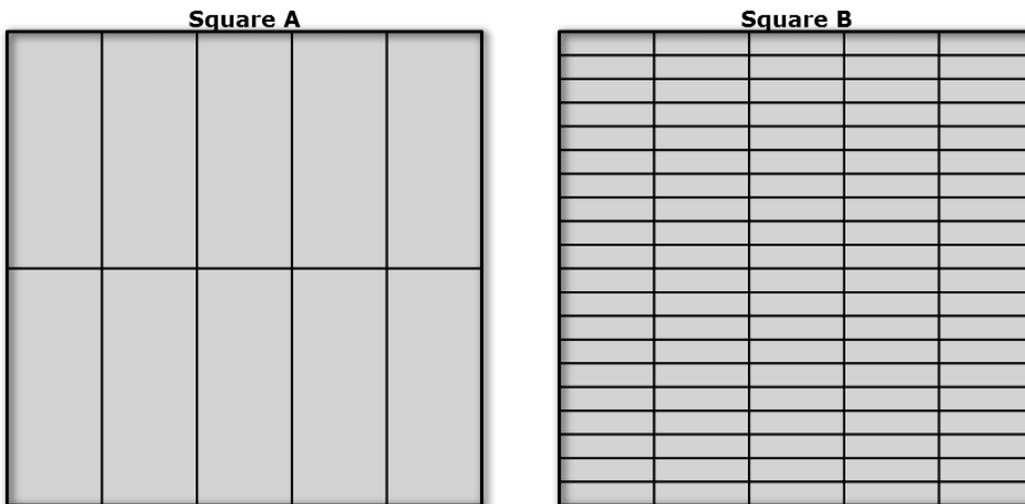


In this task, you will compare the decimal representations of the fractions $\frac{2}{10}$ and $\frac{17}{100}$.

Two grids, Square A and Square B, are shown. The squares are of equal size. Square A is divided into 10 rectangles of equal size. Square B is divided into 100 rectangles of equal size. You can shade the rectangles by clicking in them. You can use the grids to help with your explanation and comparison.



Part A

Write a fraction with a denominator of 100 that is equivalent to $\frac{2}{10}$. Use the grids to explain how you know that the fractions are equivalent.

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Part B

Write $\frac{2}{10}$ as a decimal. Then write $\frac{17}{100}$ as a decimal. Explain how you can use the grids to compare the two decimals.

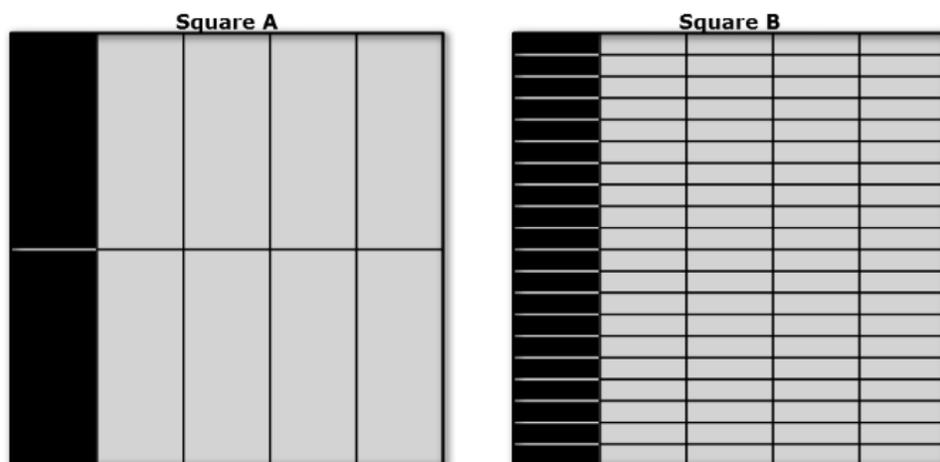
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Grade 4	Max's Model for Fractions
Item Type	Type II – 4 points
Evidence Statement	<p>4.C.4-5 with content scope 4.NF.C</p> <p>4.C.4-5: Base arithmetic explanations/reasoning on concrete referents such as diagrams (whether provided in the prompt or constructed by the student in her response), connecting the diagrams to a written (symbolic) method.</p> <p>Content Scope: Knowledge and skills articulated in 4.NF.C</p> <p>Clarifications for 4.C.4-5:</p> <ul style="list-style-type: none"> i) Tasks have “thin context” or no context. ii) Tasks are limited to denominators 2, 3, 4, 5, 6, 8, 10, 12, and 100 (CCSS footnote, p. 30).
Most Relevant Standards for Mathematical Content	<p>4.NF.C: Understand decimal notation for fractions, and compare decimal fractions.</p> <p>5. Express a fraction with denominator 10 as an equivalent fraction with denominator 100, and use this technique to add two fractions with respective denominators 10 and 100. For example, express $\frac{3}{10}$ as $\frac{30}{100}$, and add $\frac{3}{10} + \frac{4}{100} = \frac{34}{100}$.</p> <p>6. Use decimal notation for fractions with denominators 10 or 100. For example, rewrite 0.62 as $\frac{62}{100}$; describe a length as 0.62 meters; locate 0.62 on a number line diagram.</p> <p>7. Compare two decimals to hundredths by reasoning about their size. Recognize that comparisons are valid only when the two decimals refer to the same whole. Record the results of comparisons with the symbols $>$, $=$, or $<$, and justify the conclusions, e.g., by using a visual model.</p> <p>This standard is major content in the grade based on the PARCC Model Content Frameworks.</p>
Most Relevant Standards for Mathematical Practice	<p>PARCC highlights MP.3 and MP.6 through Subclaim C. These items require students to construct viable arguments through precisely written mathematical statements. This item requires two explanations of grade-appropriate solution processes. In addition, students may use the area models given in the stem to find the structure needed for the explanation (MP.7). If students use the models to find structure, they will need to make those interpretations strategically (MP.5).</p>
Item Description and Assessment	<p>This conceptual understanding task assesses understanding of decimal notation for fractions and requires a comparison of two decimals. Students use an area model to create two fractions and then use their understanding of fractions with denominators of 10 and 100 to write them</p>

Qualities

as decimals and compare them.

Students can use the model as a tool to help them understand the problem, and then students use grade-appropriate, precise language to describe the mathematical thinking behind their actions. Note: The shading on the model will not be scored.



Scoring
Information

Task is worth 4 points. Task can be scored as 0, 1, 2, 3, or 4. Scoring consists of 2 points for reasoning 2 points for computation (finding the equivalent fraction in Part A and converting fractions to decimals in Part B).

Part A

- 1 computation point is earned for determining the equivalent fraction of $20/100$.
- 1 reasoning point is earned for explaining that $2/10$ is equivalent to $20/100$ because the area of 2 rectangles in square A covers the same area as 20 rectangles in square B.

Part B

- 1 computation point is earned for determining the decimal form of each fraction: $2/10 = 0.2$ and $17/100 = 0.17$
- 1 reasoning point is earned for the comparison with reasoning, for example: I shaded 2 of the 10 sections of square A to show $2/10$ and I shaded 20 sections of the 100 to show $20/100$. These sections have the same area. Since $2/10$ is the same as $20/100$ and $20/100$ is more than $17/100$, then $0.2 > 0.17$.