Just In Time Quick Check

Standard of Learning (SOL) 5.2a

Strand: Number and Number Sense

Standard of Learning (SOL) 5.2a

The student will represent and identify equivalencies among fractions and decimals, with and without models.

Grade Level Skills:

- Represent fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form with concrete or pictorial models.
- Represent decimals in their equivalent fraction form (thirds, eighths, and factors of 100) with concrete or pictorial models.
- Identify equivalent relationships between decimals and fractions with denominators that are thirds, eighths, and factors of 100 in their equivalent decimal form without models.

Just in Time Quick Check

Just in Time Quick Check Teacher Notes

Supporting Resources:

- VDOE Mathematics Instructional Plans (MIPS)
  - 5.2ab - Order Up! Equivalences and Ordering Fractions and Decimals (Word) / PDF
- VDOE Algebra Readiness Formative Assessments
  - SOL 5.2a (Word) / PDF
- VDOE Algebra Readiness Remediation Plans
  - Hundreds Grids (Word) / PDF
  - Picture Perfect (Word) / PDF
- VDOE Word Wall Cards: Grade 5 (Word) | (PDF)
  - Mixed Number
  - Equivalent
- Desmos Activity
  - Fraction and Decimal Equivalencies

Supporting and Prerequisite SOL: 4.2b, 4.2c, 4.3a, 4.3d, 3.2a, 3.2b

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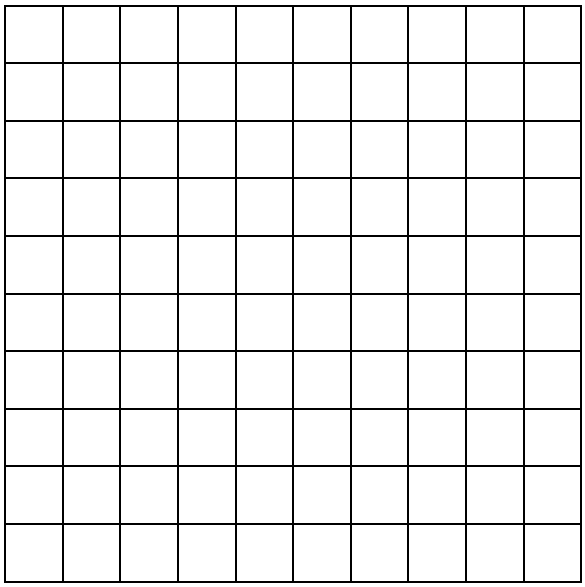
SOL 5.2a - Just in Time Quick Check

1. Shade in $\frac{3}{4}$ on the grid below:



What decimal is equivalent to the fraction shaded in the model? _____

2. Circle all of the decimals that are equivalent to $\frac{2}{8}$.

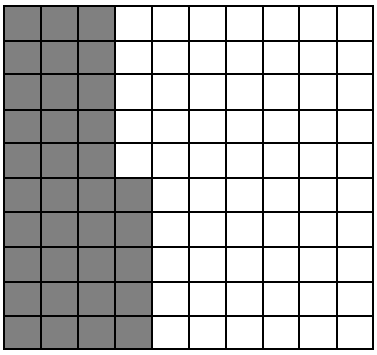
.28 .25 2.8 .250 .125

3. Which fractions and decimals are equivalent to the fraction shaded in the model below? Circle all that apply.

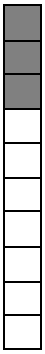
$\frac{4}{10}$ 0.8 $\frac{45}{100}$ 0.45 $\frac{4}{5}$ 0.80

4. Which model best represents $\frac{3}{5}$?

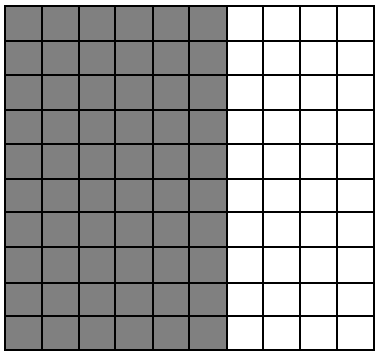
a)



b)



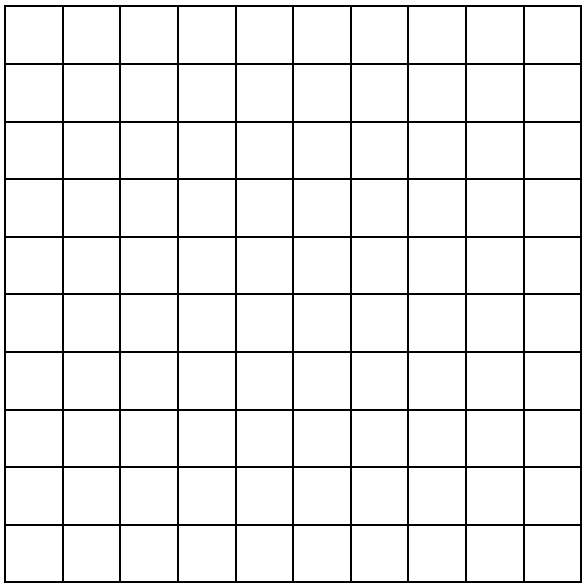
c)



SOL 5.2a - Just in Time Quick Check Teacher Notes

Common Errors/Misconceptions and their Possible Indications

1. Shade in $\frac{3}{4}$ on the grid below:



What decimal is equivalent to the fraction shaded in the model? _____

Some students may struggle to represent $\frac{3}{4}$ on the hundreds grid indicating that they have difficulty representing fractions when the graphic is divided into hundredths versus fourths. They may not realize that $\frac{3}{4}$ is equivalent to $\frac{75}{100}$. These students will benefit from additional opportunities to represent fractions using various models (i.e., hundreds grid, number lines, etc.). Engaging students in an activity that allows them to visualize that $\frac{3}{4}$ is equivalent to $\frac{75}{100}$ would be beneficial (i.e., have them shade 3 out of every 4 squares, count the number of shaded squares – showing 75 out of the 100 squares are shaded, and the shaded squares represent $\frac{75}{100}$ of the whole).

Additionally, teachers should consider providing opportunities for students to compare fractions to a benchmark, such as $\frac{1}{2}$, thereby recognizing that if the fraction is greater than one-half, then more than half of the grid should be shaded.

2. Circle all of the decimals that are equivalent to $\frac{2}{8}$.

.28 .25 2.8 .250 .125

Some students may have the misconception that the numerator and denominator of a fraction are the same digits used in the decimal equivalent (i.e., .28 for $\frac{2}{8}$). These students may lack the place value understanding (i.e., that .25 and .250 represent the same value). Place value understanding, recognizing the relationship between adjacent places in a numeral, is key to making sense of decimals. Decimal number sense should be the focus of instruction so that students can determine the reasonableness of their answers.

Students may benefit from using concrete models to build the understanding that a fraction is part of a whole and that a decimal is another way to represent a fraction. Concrete materials (i.e., fraction strips, hundreds grids, meter sticks, base ten blocks, etc.) can be used to model fractions and decimals and to make comparisons

and find equivalencies. These materials can also be used to help students develop decimal place value understanding.

3. Which fractions and decimals are equivalent to the fraction shaded in the model below. Circle all that apply.

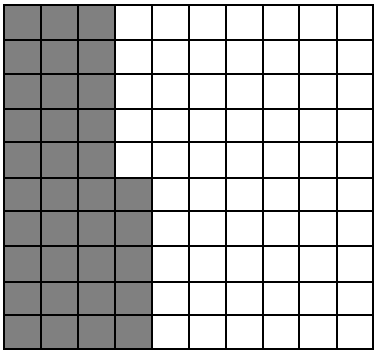
$\frac{4}{10}$ 0.8 $\frac{45}{100}$ 0.45 $\frac{4}{5}$ 0.80

Students who lack a basic understanding of decimals will likely not choose 0.8 or 0.80 for this model and may choose 0.45 as an answer because there are 4 red parts and 5 total parts. These students may have had limited opportunities to make sense of decimals using various models and may find it difficult to connect this circle model with the same fraction represented in a hundreds grid.

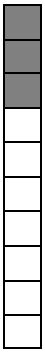
Some teaching strategies to help these students could be to use concrete models such as base ten blocks when modeling fractions and decimals and to show the relationship between hundredths and tenths.

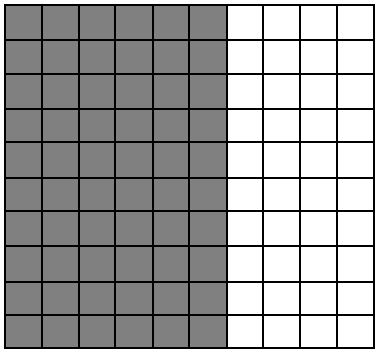
4. Which model best represents $\frac{3}{5}$?

a)



b)



c) 

A common error students make when representing decimals on a grid is to use the numerator or the denominator as part of the picture, as shown in (a), instead of thinking about equivalent fractions that can be easily shown in decimal form (e.g. $\frac{6}{10}$ *or* $\frac{60}{100}$*, which can be written in decimal form as 0.6 or 0.60). These students may benefit from additional opportunities to represent fractions and decimals using various models, including grids. Engaging students in activities focused on benchmarks may also help students recognize equivalencies among fractions and decimals. Students should recognize that when fraction is greater than a half, more than half of the grid should be shaded.*