MAFS.3.NF.1 Develop understanding of fractions as numbers

MAFS.3.NF.1.1 Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.

MAFS.3.NF.1.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.

MAFS.3.NF.1.3 Explain equivalence of fraction in special cases, and compare fractions by reasoning about their size.

MAFS.G.1.2 Geometry

MAFS.G.1.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.

Question 1 [MAFS.3.NF.1.1] Multiple Choice

Each model shown has been shaded to represent a fraction. Which model shows \( \frac{1}{5} \) shaded?

Question 2 [MAFS.3.NF.1.1] Equation Editor

A figure is shown. Part of the figure is shaded.

Which fraction of the total area of the figure does the shaded part represent?

Question 3 [MAFS.3.NF.1.1] Multiple Choice

Each model shown has been shaded to represent a fraction. Which model shows \( \frac{2}{3} \) shaded?

Question 4 [MAFS.3.NF.1.1] Equation Editor

A figure is shown. Part of the figure is shaded.

Which fraction of the total area of the figure does the shaded part represent?
Question 5 [MAFS.3. NF. 1.1] Multi-Select

Nicole represented a fraction by shading parts of the model shown.

Nicole’s Fraction Model

Select all the models that have been shaded to represent fractions equivalent to Nicole’s fraction.

- (a)
- (b)
- (c)
- (d)
- (e)

Question 6 [MAFS.3. NF. 1.1] Multi-Select

What fractions are equivalent to \(\frac{1}{2}\)?

- (a) \(\frac{4}{8}\)
- (b) \(\frac{6}{8}\)
- (c) \(\frac{6}{12}\)
- (d) \(\frac{4}{9}\)
- (e) \(\frac{3}{6}\)

Question 7 [MAFS.3. NF. 1.2] Matching Item

Select >, <, or = to complete a true comparison for each pair of fractions.

<table>
<thead>
<tr>
<th></th>
<th>&gt;</th>
<th>&lt;</th>
<th>=</th>
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<tbody>
<tr>
<td>(\frac{1}{3})</td>
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<tr>
<td>(\frac{2}{5})</td>
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<td>(\frac{3}{3})</td>
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<tr>
<td>(\frac{3}{4})</td>
<td></td>
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</tbody>
</table>

Question 8 [MAFS.3. NF. 1.1] Matching Item

Evan modeled a fraction by shading parts of the circle as shown.

Evan’s Fraction Model

Select selections to model a fraction equivalent to Evan’s fraction.

Question 9 [MAFS.3. NF. 1.2] Multiple Choice

Which number line is divided into fourths?

- (a)
- (b)
- (c)
- (d)

Question 10 [MAFS.3. NF. 1.1] Equation Editor

Each shape shown represents \(\frac{1}{2}\) of a whole.

How many shapes should be put together to make \(\frac{4}{2}\)?
Question 11 [MAFS.3. NF. 1.2] Equation Editor
What fraction is represented by the total length marked on the number line shown?

- [Image of a number line from 0 to 2 with a red segment from 0 to 1]

Question 12 [MAFS.3. NF. 1.2] Equation Editor
Which fraction is represented by the total length marked on the number line shown?

- [Image of a number line from 0 to 2 with a red segment from 0 to 1]

Question 13 [MAFS.3. NF. 1.2] Equation Editor
What fraction is represented by the total length marked on the number line shown?

- [Image of a number line from 0 to 2 with a red segment from 0 to 1]

Question 14 [MAFS.3. NF. 1.1] Multi-Select
Select all models that have been shaded to represent fractions equivalent to \( \frac{4}{6} \).

- [Images of five number lines, each divided into equal sections with some segments shaded]

Question 15 [MAFS.3. NF. 1.3] Equation Editor
Tammy has two models, each divided into equal-sized sections. Each model has been shaded to represent a fraction.

- [Image of two number lines, each with a red segment from 0 to 1]

Create a true comparison of the two fractions represented in Tammy’s models.

Question 16 [MAFS.3. NF. 1.3] Multi-Select
Select all the fractions that are equivalent to a whole number.

- \( \frac{10}{2} \)
- \( \frac{6}{7} \)
- \( \frac{5}{10} \)
- \( \frac{6}{6} \)
- \( \frac{6}{2} \)
Question 17 [MAFS.3.NF.1.3] Grid

Lily’s and Cindy’s equal-sized pizzas are each cut into 8 slices. Lily eats 6 slices of her pizza and Cindy eats 2 slices of his pizza.

Complete the comparison of Lily’s left over pizza to Cindy’s pizza left over pizza.

Question 18 [MAFS.3.NF.1.1] Grid

A fifth of a shape is shown. Draw squares to complete the whole shape.

Question 19 [MAFS.3.NF.1.1] Grid

A half of a shape is shown. Draw squares to complete the whole shape.

Question 20 [MAFS.3.NF.1.3] Equation Editor

The model shown represents one whole.

A. How many squares will fit into the model? How many equal parts can it be divided into?

B. Each square represents \( \frac{\quad}{\quad} \) of the model?