EXERCISE 1

Dividing Fractions

a. Open your workbook to Lesson 5.
   • Touch the first problem in Part 1.
   • It tells you to turn the fraction into 1. How do you change a fraction into 1? (Signal.)
     *Turn the fraction upside down and multiply.*

b. Do all the problems in Part 1. Turn each fraction into 1. You have 3 minutes.
   • (Observe students and give feedback.)

EXERCISE 2

Reducing Fractions

a. Look at Part 2. Find the biggest number you can multiply by to reach both of the numbers in the pairs in Part 2.

b. You have 3 minutes.
   • (Observe students and give feedback.)

c. The fraction in parentheses equals 1, so we can cross it out.

EXERCISE 3

Reducing Fractions

a. (Write on the board:)

\[
\frac{6}{9}
\]

- We’re going to reduce this fraction by taking out the biggest fraction equal to 1. What do we take out to reduce a fraction? (Signal.)
  *The biggest fraction equal to 1.*
- Let’s reduce 6 ninths. To find the biggest fraction equal to 1, we have to find the biggest number we can multiply by to reach 6 and 9.
- Figure out the biggest number we can multiply by to reach 6 and 9. (Pause.)
- What’s the answer? (Signal.) 3.
- If 3 is the biggest number we can multiply by to reach 6 and 9, the biggest fraction equal to 1 we can take out is 3 thirds.

b. Let’s figure out the top of the reduced fraction.
   • (Point as you read:)
   • 6 equals 3 times what number? (Signal.) 2.
   • (Write to show:)

\[
\frac{6}{9} = \left(\frac{3}{3}\right) \times \frac{2}{3}
\]

Let’s figure out the bottom.
   • (Point as you read:)
   • 9 equals 3 times what number? (Signal.) 3.
   • (Write to show:)

\[
\frac{6}{9} = \left(\frac{3}{3}\right) \times \frac{2}{3}
\]

d. Let’s do another one.
   • (Write on the board:)

\[
\frac{4}{12}
\]

- What do we take out to reduce a fraction? (Signal.) *The biggest fraction equal to 1.*
- To find the biggest fraction equal to 1, we have to find the biggest number we can multiply by to reach 4 and 12.
- Tell me the biggest number we can multiply by. (Pause.) (Signal.) 4.
• If 4 is the biggest number we can multiply by. The biggest fraction equal to 1 we can take out is 4 fourths.
  (Write to show:)
  \[
  \frac{4}{12} = \left( \frac{4}{4} \right) \times \frac{1}{3}
  \]
  e. Figure out the top of the reduced fraction. (Pause.)
  • What is the top? (Signal.) 1.
  (Write to show:)
  \[
  \frac{4}{12} = \left( \frac{4}{4} \right) \times \frac{1}{3}
  \]
  • Figure out the bottom of the reduced fraction. (Pause.)
  • What is the bottom? (Signal.) 3.
  (Write to show:)
  \[
  \frac{4}{12} = \left( \frac{4}{4} \right) \times \frac{1}{3}
  \]
  • The fraction in parentheses equals 1, so we can cross it out.
  (Cross out \( \frac{4}{4} \).)
  • When we take out the fraction equal to 1, what is the reduced fraction? (Signal.) 1 third.
  (Write to show:)
  \[
  \frac{4}{12} = \left( \frac{4}{4} \right) \times \frac{1}{3} = \frac{1}{3}
  \]
  f. Let’s reduce one more.
  • (Write on the board:)
  \[
  \frac{10}{6} = \left( \frac{2}{2} \right) \times \frac{5}{3}
  \]
  • Tell me the biggest number we can multiply by. (Pause.) (Signal.) 2.
  • If 2 is the biggest number we can multiply by, the biggest fraction equal to 1 we can take out is 2 halves.
  (Write to show:)
  \[
  \frac{10}{6} = \left( \frac{2}{2} \right) \times \frac{5}{3}
  \]
  • Figure out the top of the reduced fraction. (Pause.)
  • What is the top? (Signal.) 5.
  g. (Write to show:)
  \[
  \frac{10}{6} = \left( \frac{2}{2} \right) \times \frac{5}{3}
  \]
  • Figure out the bottom of the reduced fraction. (Pause.)
  • What is the bottom? (Signal.) 3.
  h. (Write to show:)
  \[
  \frac{10}{6} = \left( \frac{2}{2} \right) \times \frac{5}{3}
  \]
  • The fraction in the parentheses equals 1, so we can cross it out.
  (Cross out \( \frac{2}{2} \).)
  • When we take out the fraction equal to 1, what is the reduced fraction? (Signal.) 5 thirds.
  (Write to show:)
  \[
  \frac{10}{6} = \left( \frac{2}{2} \right) \times \frac{5}{3} = \frac{5}{3}
  \]
  • What do we take out to reduce a fraction? (Signal.) The biggest fraction equal to 1.
  • To find the biggest fraction equal to 1, we have to find the biggest number we can multiply by to reach 10 and 6.
**EXERCISE 4**

**Addition/Subtraction**

a. (Write on the board:)

\[
\begin{array}{c}
\frac{1}{2} \\
\frac{2}{3} \\
\frac{5}{6}
\end{array}
\]

+ \[
\frac{5}{6}
\]

- Can we work this problem the way it is? (Signal.) No.
- Why not? (Signal.) The wholes aren’t the same.
- To make the wholes the same, we have to make a new bottom number. How do we make a new bottom number? (Signal.) Multiply the old bottoms together.
- Tell me the numbers for the new bottom. (Pause.) (Signal.) 2 times 3 times 6.
- (Write the new bottoms.)

b. In the new fractions, we want to end with the same amount we start with, so what will we multiply by? (Signal.) 1.
- Let’s figure out the fractions equal to 1. What’s the new bottom number of 1 half going to be? (Signal.) 2 times 3 times 6.
- What’s the old bottom of 1 half? (signal.) 2.
- So what do we have to multiply the 2 by? (Signal.) 3 times 6.
- So what fraction that equals 1 do we multiply by? (Signal.) 3 times 6 over 3 times 6.

- What’s the new bottom of 2 thirds going to be? (Signal.) 2 times 3 times 6.
- What’s the old bottom of 2 thirds? (Signal.) 3.
- So what do we have to multiply the 3 by? (Signal.) 2 times 6.
- So what fraction that equals 1 do we multiply by? (Signal.) 2 times 6 over 2 times 6.

- (Write to show:)

\[
\begin{array}{c}
\frac{1}{2} \times \frac{3 \times 6}{3 \times 6} = \frac{2 \times 3 \times 6}{2 \times 3 \times 6}
\end{array}
\]

\[
\begin{array}{c}
\frac{2}{3} \times \frac{2 \times 6}{2 \times 6} = \frac{2 \times 3 \times 6}{2 \times 3 \times 6}
\end{array}
\]

\[
\begin{array}{c}
\frac{5}{6} \times \frac{2 \times 3 \times 6}{2 \times 3 \times 6} = \frac{2 \times 3 \times 6}{2 \times 3 \times 6}
\end{array}
\]
Lesson 5

• (Write to show:)

\[
\begin{align*}
1 \left( \frac{3 \times 6}{3 \times 6} \right) &= \frac{18}{2 \times 3 \times 6} \\
2 \left( \frac{2 \times 6}{2 \times 6} \right) &= \frac{24}{2 \times 3 \times 6} \\
\frac{5}{6} \left( \frac{2 \times 3}{2 \times 3} \right) &= \frac{30}{2 \times 3 \times 6}
\end{align*}
\]

c. Let’s figure out the new top numbers for each fraction. Read the numbers you multiply for the new top number of the first fraction. (Signal.) 1 times 3 times 6.
• Tell me what that equals. (Pause.) (Signal.) 18.
• (Write to show:)

\[
\begin{align*}
1 \left( \frac{3 \times 6}{3 \times 6} \right) &= \frac{18}{2 \times 3 \times 6} \\
2 \left( \frac{2 \times 6}{2 \times 6} \right) &= \frac{24}{2 \times 3 \times 6} \\
\frac{5}{6} \left( \frac{2 \times 3}{2 \times 3} \right) &= \frac{30}{2 \times 3 \times 6}
\end{align*}
\]

• Read the numbers you multiply for the top number in the next fraction. (Signal.) 5 times 2 times 3.
• Tell me what that equals. (Pause.) (Signal.) 30.
• (Write to show:)

\[
\begin{align*}
1 \left( \frac{3 \times 6}{3 \times 6} \right) &= \frac{18}{2 \times 3 \times 6} \\
2 \left( \frac{2 \times 6}{2 \times 6} \right) &= \frac{24}{2 \times 3 \times 6} \\
\frac{5}{6} \left( \frac{2 \times 3}{2 \times 3} \right) &= \frac{30}{2 \times 3 \times 6}
\end{align*}
\]

d. Read the numbers you multiply for the new bottom number. (Signal.) 2 times 3 times 6.
• Tell me what that equals. (Pause.) (Signal.) 36.
• I’ll take those out and write the new bottom number for each fraction.
• (Cross out the 2 times 3 times 6 and write 36 for each fraction.)
• What’s the bottom for the answer? (Signal.) 36.
• (Write under the bottom line:)

\[
\begin{align*}
1 \left( \frac{3 \times 6}{3 \times 6} \right) &= \frac{18}{2 \times 3 \times 6} \quad \text{36} \\
2 \left( \frac{2 \times 6}{2 \times 6} \right) &= \frac{24}{2 \times 3 \times 6} \quad \text{36} \\
\frac{5}{6} \left( \frac{2 \times 3}{2 \times 3} \right) &= \frac{30}{2 \times 3 \times 6} \quad \text{36}
\end{align*}
\]

e. Read what you add for the top of the answer. (Signal.) 18 plus 24 plus 30.
• Tell me what that equals. (Pause.) (Signal.) 72.

\[
\begin{align*}
1 \left( \frac{3 \times 6}{3 \times 6} \right) &= \frac{18}{2 \times 3 \times 6} \\
2 \left( \frac{2 \times 6}{2 \times 6} \right) &= \frac{24}{2 \times 3 \times 6} \\
\frac{5}{6} \left( \frac{2 \times 3}{2 \times 3} \right) &= \frac{30}{2 \times 3 \times 6}
\end{align*}
\]
Lesson 5

• (Write to show:)

\[
\begin{align*}
\frac{1}{2} \left( \frac{3 \times 6}{3 \times 6} \right) &= \frac{18}{2 \times 3 \times 6} = \frac{36}{36} \\
\frac{2}{3} \left( \frac{2 \times 6}{2 \times 6} \right) &= \frac{24}{2 \times 3 \times 6} = \frac{36}{36} \\
\frac{5}{6} \left( \frac{2 \times 3}{2 \times 3} \right) &= \frac{30}{2 \times 3 \times 6} = \frac{72}{36}
\end{align*}
\]

• What’s the answer for the problem? (Signal.) 72 over 36.

EXERCISE 5

Workcheck

a. We’re going to check the answers. Exchange workbooks and get ready to check the answers. (Pause.)
   • Put an X next to each item you got wrong.
   • (Read the answers for all rows. See Answer Key.)
   • Return workbooks.

b. Now we’re going to figure out the number of points you’ve earned for this lesson.
   • (Point to the posted information.)

<table>
<thead>
<tr>
<th>Worksheet Items</th>
<th>Errors</th>
<th>Points</th>
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<tbody>
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<td>0–2</td>
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</tr>
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<td>3</td>
<td>7</td>
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<tr>
<td>4</td>
<td>5</td>
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<tr>
<td>5</td>
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</tr>
<tr>
<td>6</td>
<td>1</td>
<td></td>
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<tr>
<td>7 or more</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

• Count the number of items you got wrong. Figure out the number of points you earned and write the number in the “Items” box.

• (Observe students and give feedback.)

• c. (Tell the group how many points they earned for the lesson.) Write that number in the “Hard Work” box; then figure out the total for today’s lesson.

• d. Turn to the Point Summary Charts. Write the points in the box for Lesson 5. ✓

• e. Total your points for Lessons 1 through 5 and write the total number on the chart.
   • (Observe students and give feedback.)

• f. Everybody, find the Five-Lesson Point Graph on page 120. ✓
   • (Help the students plot their five-lesson scores on the graph.)
Lesson 5

1. \( \frac{3}{4} \cdot \frac{2}{3} = \frac{1}{2} \)
2. \( \frac{5}{6} \cdot \frac{7}{8} = \frac{1}{2} \)
3. \( \frac{9}{12} \cdot \frac{1}{4} = \frac{1}{2} \)
4. \( \frac{2}{3} \cdot \frac{5}{7} = \frac{1}{2} \)

Lesson 5

Point Summary Charts

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<th>Points</th>
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<tbody>
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</tr>
<tr>
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<td>1</td>
</tr>
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<td>1</td>
</tr>
<tr>
<td>Total</td>
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</tr>
</tbody>
</table>

Daily Points

Daily points will be awarded by the teacher as follows:

- **A** (40-49 points)
- **B** (50-59 points)
- **C** (60-69 points)
- **D** (70-79 points)
- **F** (0-29 points)

Five-Lesson Point Graph

Points:

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