5th Grade Math
Distance Learning Packet
Week 4

Directions:

**Daily Directions**

Read directions for the topic and work through the examples.

5 ÷ 2 × 1 ÷ 2 = 257, 364, 983, 578
problems for each section. You can workspace separate the sheets from the packet. For sections with enough space on the page, there is no extra workspace at the back of the packet.

Students should complete approximately 2 ÷ 4 = 43, 282
(approximately 20-30 problems)

Contact Information:

**Teacher Contact Information**

**School Contact Information**
4.8 Division of Decimals by Whole Numbers (DOK 2)

Example: \( 52.26 \div 6 \)

**Step 1:** Copy the problem as you would for whole numbers. Copy the decimal point directly above the division symbol in the place for the answer.

\[
6 \overline{)52.26}
\]

**Step 2:** Divide the same way as you would with whole numbers.

\[
\begin{array}{ccc}
8.71 \\
6 \overline{)52.26} & & \\
48 & & \\
42 & & \\
\underline{42} & & \\
6 & & \\
\underline{6} & & \\
0 & & \\
\end{array}
\]

Divide. Remember to copy the decimal point directly above the place for the answer. (DOK 2)

1. \( 42.75 \div 3 \)  
2. \( 74.16 \div 6 \)  
3. \( 81.50 \div 25 \)  
4. \( 82.46 \div 14 \)  
5. \( 12.50 \div 2 \)  
6. \( 224.64 \div 52 \)  
7. \( 183.04 \div 52 \)  
8. \( 281.52 \div 23 \)  
9. \( 72.36 \div 4 \)  
10. \( 379.5 \div 15 \)  
11. \( 152.25 \div 21 \)  
12. \( 40.375 \div 19 \)  
13. \( 102.5 \div 5 \)  
14. \( 113.4 \div 9 \)  
15. \( 585.14 \div 34 \)  
16. \( 93.6 \div 24 \)
4.9 Division of Decimals by Decimals (DOK 2)

Example: \( 374.5 \div 0.07 \)

Step 1: Copy the problem as you would for whole numbers.

\[
\begin{array}{c|c}
\text{Divisor} & 374.5 \rightarrow \text{Dividend} \\
\hline
0.07 & \end{array}
\]

Step 2: You cannot divide by a decimal number. You must move the decimal point in the divisor 2 places to the right to make it a whole number. The decimal point in the dividend must also move to the right the same number of places. Notice that in this example, you must add a 0 to the dividend.

\[
0.07 \rightarrow 374.50.
\]

Step 3: The problem now becomes \( 37,450 \div 7 \).
Copy the decimal point from the dividend straight above in the place for the answer.

\[
\begin{array}{c|c}
5 & 3 \quad 5 \\
\hline
7 & 3 \quad 7 \\
\hline
& 4 \quad 5 \\
\hline
& 3 \quad 5 \\
& 0 \quad 0
\end{array}
\]

Divide. Remember to move the decimal points. (DOK 2)

1. \( 0.676 \div 0.013 \)
2. \( 0.32 \div 0.08 \)
3. \( 54.60 \div 0.84 \)
4. \( 10.35 \div 0.45 \)
5. \( 18.46 \div 1.3 \)
6. \( 14.6 \div 0.002 \)
7. \( 125.25 \div 0.75 \)
8. \( 33.00 \div 1.65 \)
9. \( 154.08 \div 1.8 \)
10. \( 0.4374 \div 0.003 \)
11. \( 292.9 \div 0.29 \)
12. \( 6.375 \div 0.3 \)
13. \( 4.8 \div 0.08 \)
14. \( 1.2 \div 0.024 \)
15. \( 15.725 \div 3.7 \)
16. \( 167.50 \div 0.25 \)
5.1 Fractions (DOK 1)

Fractions are numbers used to express part of a total.

Fractions are expressed as part(s) over the total. \( \frac{\text{Part}}{\text{Total}} \)

Example: Sara’s mother cuts a pie into 5 equal pieces. How much of the pie is one slice?

Step 1: Determine the number of parts. The part is 1 piece of pie. The total is 5 pieces of pie.

Answer: \( \frac{\text{Part}}{\text{Total}} = \frac{1}{5} \) One slice of the pie is \( \frac{1}{5} \) of the pie.

The names of the two parts of a fraction are numerator for the part on top and denominator for the total on the bottom.

\[ \frac{\text{Numerator}}{\text{Denominator}} = \frac{\text{Part(s)}}{\text{Total}} = \frac{1}{5} \]

An easy way to remember the names of numerator and denominator is: denominator starts with the letter “d”, and so does the word “down.” The denominator is down from the numerator.

If the numerators are all equal, and the denominators are different in a group of fractions, then the larger the denominator, the smaller the fraction. Look at the list of fractions below.

\[ \frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{8} \]

Think of a pie. If the pie is cut into two pieces, each piece is \( \frac{1}{2} \) of a pie. That’s a big piece of pie! If the pie is cut into eight pieces, each piece is \( \frac{1}{8} \) of a pie. That’s a much smaller piece of pie than \( \frac{1}{2} \) of a pie.
5.2 Simplifying Fractions (DOK 1)

Example 1: Simplify \( \frac{4}{8} \) to lowest terms.

Step 1: First, you need to find the greatest common factor of 4 and 8. Think: What is the largest number that can be divided into 4 and 8 without a remainder?

These must be the same number. \( \frac{4}{8} \) 4 and 8 can both be divided by 4.

Step 2: Divide the top (numerator) and bottom (denominator) of the fraction by the same number.

\[ \frac{4}{8} = \frac{4 \div 4}{8 \div 4} = \frac{1}{2} \]

Therefore, \( \frac{4}{8} = \frac{1}{2} \).

If there is a whole number with the fraction, be certain to bring the whole number forward with the simplified fraction.

Examples: \( \frac{3}{6} \) simplified is \( \frac{1}{2} \), \( \frac{15}{21} \) simplified is \( \frac{15}{3} \times \frac{1}{3} \), \( \frac{347}{15} \) simplified is \( \frac{347}{5} \times \frac{3}{5} \)

Simplify the following. (DOK 1)

1. \( \frac{2}{8} \) 8. \( \frac{9}{21} \) 15. \( \frac{15}{30} \) 22. \( \frac{3}{15} \)

2. \( \frac{12}{15} \) 9. \( \frac{14}{4} \) 16. \( \frac{12}{36} \) 23. \( \frac{4}{15} \)

3. \( \frac{9}{27} \) 10. \( \frac{6}{26} \) 17. \( \frac{13}{39} \) 24. \( \frac{74}{48} \)

4. \( \frac{12}{42} \) 11. \( \frac{30}{45} \) 18. \( \frac{28}{49} \) 25. \( \frac{83}{18} \)

5. \( \frac{3}{21} \) 12. \( \frac{16}{64} \) 19. \( \frac{8}{18} \) 26. \( \frac{9}{27} \)

6. \( \frac{27}{54} \) 13. \( \frac{10}{25} \) 20. \( \frac{14}{21} \) 27. \( \frac{15}{18} \)

7. \( \frac{14}{22} \) 14. \( \frac{3}{12} \) 21. \( \frac{2}{12} \) 28. \( \frac{8}{28} \)
5.3 Simplifying Improper Fractions (DOK 1, 2)

Example 1: Simplify $\frac{21}{4}$.

Step 1: $\frac{21}{4} \div 4 = 5 \text{ R } 1$

The quotient, 5, becomes the whole number portion of the mixed number.

Step 2: The remainder, 1, becomes the numerator of the fraction, in the mixed number.

$\frac{21}{4} = 5 \frac{1}{4}$ ← remainder

The denominator (bottom number) of the fraction always remains the same.

Example 2: Simplify $\frac{11}{6}$.

Step 1: $\frac{11}{6}$ is the same as $11 \div 6$. $11 \div 6 = 1 \text{ R } 5$.

Step 2: Rewrite as a mixed number: $1 \frac{5}{6}$

Simplify the following improper fractions. (DOK 1)

1. $\frac{13}{5} = \underline{2} \frac{3}{5}$
2. $\frac{11}{3} = \underline{3} \frac{2}{3}$
3. $\frac{24}{6} = \underline{4}$
4. $\frac{7}{6} = \underline{1} \frac{1}{6}$
5. $\frac{19}{6} = \underline{3} \frac{1}{6}$
6. $\frac{16}{5} = \underline{3} \frac{1}{5}$
7. $\frac{13}{8} = \underline{1} \frac{5}{8}$
8. $\frac{9}{5} = \underline{1} \frac{4}{5}$
9. $\frac{22}{3} = \underline{7} \frac{1}{3}$
10. $\frac{13}{4} = \underline{3} \frac{1}{4}$
11. $\frac{15}{2} = \underline{7} \frac{1}{2}$
12. $\frac{22}{6} = \underline{3} \frac{4}{6}$
13. $\frac{17}{8} = \underline{2} \frac{1}{8}$
14. $\frac{27}{8} = \underline{3} \frac{3}{8}$
15. $\frac{32}{5} = \underline{6} \frac{2}{5}$
16. $\frac{3}{2} = \underline{1}$
17. $\frac{7}{4} = \underline{1} \frac{3}{4}$
18. $\frac{21}{10} = \underline{2} \frac{1}{10}$
19. $\frac{12}{2} = \underline{6}$
20. $\frac{17}{3} = \underline{5} \frac{2}{3}$
21. $\frac{23}{10} = \underline{2} \frac{3}{10}$
22. $\frac{9}{2} = \underline{4} \frac{1}{2}$
23. $\frac{12}{5} = \underline{2} \frac{2}{5}$
24. $\frac{19}{3} = \underline{6} \frac{1}{3}$
Chapter 5 Adding and Subtracting Fractions

Now take what you learned simplifying improper fractions a step further, by adding whole numbers to the fractions.

Example 3: Simplify $8\frac{3}{2}$.

**Step 1:** Separate the whole number from the improper fraction. $8\frac{3}{2}$ separates to $8$ and $\frac{3}{2}$.

**Step 2:** Simplify the improper fraction $\frac{3}{2}$. $\frac{3}{2}$ is the same as $3 \div 2$. $3 \div 2 = 1 \text{ R } 1$.

**Step 3:** Rewrite $\frac{3}{2}$ as a whole number with a fraction: $1\frac{1}{2}$.

**Step 4:** Add $1\frac{1}{2}$ to the whole number 8 from the original problem: $8 + 1\frac{1}{2} = 9\frac{1}{2}$.

Simplify the following improper mixed numbers. (DOK 2)

1. $\frac{612}{8}$
2. $\frac{117}{5}$
3. $\frac{910}{5}$
4. $\frac{23}{2}$
5. $\frac{511}{6}$
6. $\frac{815}{6}$
7. $\frac{105}{2}$
8. $\frac{77}{3}$
9. $\frac{1111}{4}$
10. $\frac{29}{5}$
11. $\frac{313}{3}$
12. $\frac{64}{3}$
13. $\frac{2211}{2}$
14. $\frac{15}{4}$
15. $\frac{38}{5}$
16. $\frac{517}{3}$
17. $\frac{155}{2}$
18. $\frac{96}{5}$
19. $\frac{111}{3}$
20. $\frac{127}{3}$
21. $\frac{94}{2}$
5.4 Equivalent Fractions (DOK 1, 2)

Any fraction that has the same non-zero numerator (top number) and denominator (bottom number) equals 1.

Example 1: \[ \frac{5}{5} = \frac{12}{12} = \frac{15}{15} = \frac{25}{25} = 1 \]

Any fraction multiplied by 1 in any form remains equal to itself.

Example 2: \[ \frac{3}{7} \times \frac{4}{4} = \frac{12}{28} = \frac{3}{7} \]

Example 3: Find the missing numerator (top number). \( \frac{5}{8} = \frac{24}{x} \)

Step 1: Ask yourself, “What was 8 multiplied by to get 24?” 3 is the answer.
Or, ask yourself, “What is 24 ÷ 8?” 3 is the answer.

Step 2: The only way to keep the fraction equal is to multiply the top and bottom numbers by the same number. The bottom number was multiplied by 3, so multiply the top number by 3, as shown below.
\[ \frac{5}{8} \times \frac{3}{3} = \frac{15}{24} \quad \text{Note:} \quad \frac{3}{3} = 1 \quad \text{Any number divided by itself equals 1.} \]

Find the missing numerators from the following equivalent fractions. (DOK 1)

1. \[ \frac{2}{6} = \frac{18}{x} \quad 8. \quad \frac{3}{14} = \frac{28}{x} \quad 15. \quad \frac{7}{8} = \frac{40}{x} \quad 22. \quad \frac{2}{5} = \frac{12}{15} \]

2. \[ \frac{2}{3} = \frac{27}{x} \quad 9. \quad \frac{2}{5} = \frac{25}{x} \quad 16. \quad \frac{1}{12} = \frac{48}{x} \quad 23. \quad \frac{8}{3} = \frac{8}{56} \]

3. \[ \frac{4}{9} = \frac{x}{18} \quad 10. \quad \frac{4}{11} = \frac{x}{33} \quad 17. \quad \frac{3}{8} = \frac{x}{24} \quad 24. \quad \frac{3}{8} = \frac{3}{56} \]

4. \[ \frac{7}{15} = \frac{45}{x} \quad 11. \quad \frac{5}{6} = \frac{x}{18} \quad 18. \quad \frac{3}{4} = \frac{x}{16} \quad 25. \quad \frac{11}{13} = \frac{26}{x} \]

5. \[ \frac{9}{10} = \frac{50}{x} \quad 12. \quad \frac{6}{11} = \frac{x}{22} \quad 19. \quad \frac{2}{7} = \frac{x}{49} \quad 26. \quad \frac{7}{1} = \frac{35}{x} \]

6. \[ \frac{5}{6} = \frac{36}{x} \quad 13. \quad \frac{8}{15} = \frac{x}{45} \quad 20. \quad \frac{11}{12} = \frac{x}{24} \quad 27. \quad \frac{2}{5} = \frac{10}{x} \]

7. \[ \frac{1}{4} = \frac{x}{36} \quad 14. \quad \frac{1}{9} = \frac{x}{18} \quad 21. \quad \frac{2}{5} = \frac{45}{x} \quad 28. \quad \frac{3}{10} = \frac{40}{x} \]

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## 5.6 Adding and Subtracting Fractions (DOK 2)

**Example:** Add $\frac{1}{2} + \frac{2}{3}$

1. **Step 1:** Rewrite the problem vertically, and find the lowest common denominator. This is the same as finding the lowest common multiple. The lowest common denominator for 2 and 3 is 6.

\[
\frac{1}{2} = \frac{}{6} \\
\frac{2}{3} = \frac{}{6}
\]

2. **Step 2:** Find the missing numerators by dividing the denominator, 6, by the original denominators, then multiply the original numerals by that number.

\[
\frac{1}{2} \times \frac{3}{3} = \frac{3}{6} \\
\frac{2}{3} \times \frac{2}{2} = \frac{4}{6}
\]

**Answer:** $\frac{7}{6}$

**Add and simplify. Answers may include a whole number with a fraction. (DOK 2)**

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4.9 Division of Decimals by Decimals workspace

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5.2 Simplifying Improper Fractions workspace

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5.6 Adding and Subtracting Fractions workspace

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