Topic 9

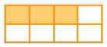
Fractions and Decimals

RETEACHING

Set A, pages 220–222

You can find the part of the whole, part of the set, or part of a segment using a model.

Write the fraction that names the shaded part.



The model shows $\frac{3}{8}$ shaded.

Remember that the numerator tells you how many equal-sized parts are shaded. The denominator tells you the total number of equal-sized parts.

Write fractions for the shaded and unshaded portions of each model.

1.  $\frac{5}{6}, \frac{1}{6}$

2.  $\frac{1}{2}, \frac{1}{2}$

Set B, pages 224–225

José and three friends want to create chalkboard art in three equal-sized spaces on the playground. How much of each space will each student get?

To show $3 \div 4$, you can use a fraction.

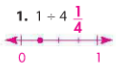
$3 \div 4 = \frac{3}{4}$

Each student will get $\frac{3}{4}$ of one space.

Remember that to show a fraction on the number line, you need to divide the number line into equal parts.

Give each answer as a fraction. Then show each on a number line.

1. $1 \div 4$ $\frac{1}{4}$



2. $2 \div 5$ $\frac{2}{5}$

Set C, pages 226–227

Write the improper fraction and mixed number.

There are 2 wholes shaded and $\frac{4}{5}$ of 1 whole shaded. You can see that this is $2\frac{4}{5}$ or $\frac{14}{5}$. You can also follow the steps below to write $2\frac{4}{5}$ as an improper fraction.

Step 1

Multiply the denominator of the fraction by the whole number.
$2 \times 5 = 10$

Step 2

Add the numerator of the fraction to the product of the denominator and the whole number.
$10 + 4 = 14$

Step 3

Write the fraction using the same denominator. $\frac{14}{5}$

So, $2\frac{4}{5} = \frac{14}{5}$.

Remember that an improper fraction and a mixed number can represent the same value.

Write each mixed number as an improper fraction.

1. $3\frac{1}{2}$ $\frac{7}{2}$
2. $2\frac{2}{3}$ $\frac{8}{3}$
3. $5\frac{1}{6}$ $\frac{31}{6}$
4. $3\frac{4}{5}$ $\frac{19}{5}$
5. $1\frac{1}{5}$ $\frac{6}{5}$
6. $9\frac{7}{8}$ $\frac{79}{8}$

Write each improper fraction as a mixed number.

7. $\frac{4}{3}$ $1\frac{1}{3}$
8. $\frac{3}{2}$ $1\frac{1}{2}$
9. $\frac{6}{4}$ $1\frac{2}{4}$
10. $\frac{12}{9}$ $1\frac{3}{9}$
11. $\frac{31}{7}$ $4\frac{3}{7}$
12. $\frac{46}{5}$ $9\frac{1}{5}$

Set D, pages 228–229

Write two fractions equivalent to $\frac{3}{7}$.

To form equivalent fractions, multiply both the numerator and denominator of the given fraction by the same number.

$\frac{3 \times 4}{7 \times 4} = \frac{12}{28}$; $\frac{3 \times 5}{7 \times 5} = \frac{15}{35}$

So, $\frac{12}{28}$ and $\frac{15}{35}$ are equivalent to $\frac{3}{7}$.

Remember that you multiply or divide both the numerator and denominator to find equivalent fractions.

Write two fractions that are equivalent to each of the following.

1. $\frac{1}{2}$ $\frac{2}{4}, \frac{3}{6}$
2. $\frac{3}{4}$ $\frac{6}{8}, \frac{9}{12}$
3. $\frac{2}{3}$ $\frac{4}{6}, \frac{6}{9}$
4. $\frac{5}{7}$ $\frac{10}{14}, \frac{15}{21}$

Set E, pages 230–231

Compare $\frac{4}{16}$ and $\frac{3}{8}$.

To compare numbers, you can find a common denominator. Write multiples of each number.

Circle the common multiple.

16: 16, 32, 48, . . .

8: 8, 16, 24, . . .

Use 16 as the common denominator.

$\frac{4}{16} = \frac{4}{16}$ $\quad \frac{3 \times 2}{8 \times 2} = \frac{6}{16}$

$\frac{4}{16} < \frac{6}{16}$, and so $\frac{4}{16} < \frac{3}{8}$.

Write $\frac{1}{5}, \frac{1}{8}, \frac{3}{10}$, and $1\frac{1}{2}$ in order from least to greatest.

$\frac{1}{8} < \frac{1}{5}$ because both numerators are 1, and $8 > 5$.

$\frac{1}{5} < \frac{3}{10}$ because $\frac{1}{5} = \frac{2}{10}$ and $\frac{2}{10} < \frac{3}{10}$.

$1\frac{1}{2}$ is greater than any of the values because it is greater than 1.

So, the order is $\frac{1}{8}, \frac{1}{5}, \frac{3}{10}, 1\frac{1}{2}$.

Remember that you can always find a common denominator by multiplying the denominators together.

Compare. Write $>$, $<$, or $=$ for each ◯.

1. $\frac{2}{5}$ $>$ $\frac{3}{10}$
2. $\frac{9}{12}$ $>$ $\frac{1}{5}$
3. $\frac{7}{12}$ $>$ $\frac{1}{3}$
4. $\frac{8}{15}$ $>$ $\frac{20}{45}$
5. $\frac{3}{6}$ $<$ $\frac{4}{7}$
6. $\frac{9}{10}$ $<$ $\frac{18}{19}$

Order the numbers from the least to greatest.

7. $\frac{2}{3}, \frac{1}{4}, \frac{2}{5}, \frac{1}{3}$ $\frac{1}{4}, \frac{1}{3}, \frac{2}{5}, \frac{2}{3}$
8. $\frac{2}{7}, \frac{1}{10}, \frac{1}{3}, \frac{5}{6}$ $\frac{1}{10}, \frac{2}{7}, \frac{1}{3}, \frac{5}{6}$
9. $\frac{9}{10}, 1\frac{3}{5}, \frac{4}{7}, \frac{11}{12}$ $\frac{4}{7}, \frac{9}{10}, \frac{11}{12}, 1\frac{3}{5}$
10. $3\frac{1}{2}, 3\frac{1}{8}, 3\frac{2}{5}, 3\frac{7}{8}$ $3\frac{1}{8}, 3\frac{2}{5}, 3\frac{1}{2}, 3\frac{7}{8}$