



Additional Practice 7-2

Find Common Denominators

Another Look!

Rename $\frac{4}{10}$ and $\frac{3}{8}$ using a common denominator.

Remember: A multiple is a product of the number and any nonzero whole number.



Step 1

Find a common denominator for $\frac{4}{10}$ and $\frac{3}{8}$.

List multiples of the denominators 10 and 8. Then look for a common multiple.

10: 10, 20, 30, 40

8: 8, 16, 24, 32, 40

The number 40 can be used as the common denominator.

Step 2

Rename $\frac{4}{10}$ and $\frac{3}{8}$ using 40 as the common denominator.

Multiply the numerator and denominator by the same nonzero number.

$$\frac{4}{10} \quad \frac{4 \times 4}{10 \times 4} = \frac{16}{40} \quad \frac{3}{8} \quad \frac{3 \times 5}{8 \times 5} = \frac{15}{40}$$

So, $\frac{16}{40}$ and $\frac{15}{40}$ is one way to rename $\frac{4}{10}$ and $\frac{3}{8}$ using a common denominator.

In 1–9, find a common denominator for each pair of fractions. Then write equivalent fractions with the common denominator.

Sample answers are given.

1. $\frac{1}{3}$ and $\frac{4}{9}$

$\frac{1}{3}$ Multiples of the denominator: 3, 6, 9, 12, 15, 18 Rename $\frac{1}{3}$: $\frac{6}{18}$

$\frac{4}{9}$ Multiples of the denominator: 9, 18 Rename $\frac{4}{9}$: $\frac{8}{18}$

Common Denominator: 18

Rename. $\frac{1 \times 6}{3 \times 6} = \frac{6}{18} \quad \frac{4 \times 2}{9 \times 2} = \frac{8}{18}$

2. $\frac{3}{4}$ and $\frac{2}{5}$

20; $\frac{15}{20}$, $\frac{8}{20}$

3. $\frac{4}{7}$ and $\frac{2}{3}$

21; $\frac{12}{21}$, $\frac{14}{21}$

4. $\frac{1}{2}$ and $\frac{7}{11}$

22; $\frac{11}{22}$, $\frac{14}{22}$

5. $\frac{5}{12}$ and $\frac{3}{5}$

60; $\frac{25}{60}$, $\frac{36}{60}$

6. $\frac{5}{4}$ and $\frac{11}{16}$

16; $\frac{20}{16}$, $\frac{11}{16}$

7. $\frac{6}{7}$ and $\frac{1}{5}$

35; $\frac{30}{35}$, $\frac{7}{35}$

8. $\frac{9}{15}$ and $\frac{4}{9}$

45; $\frac{27}{45}$, $\frac{20}{45}$

9. $\frac{5}{6}$ and $\frac{8}{21}$

42; $\frac{35}{42}$, $\frac{16}{42}$



10. On the Dell River, a boat will pass the Colby drawbridge and then the Wave drawbridge. Rename each of the two drawbridge opening times. There are 60 minutes in an hour, so use 60 as a common denominator. Then, rename each opening time using another common denominator. Explain how you found your answers.

$$\frac{45}{60} \text{ and } \frac{10}{60}; \frac{3 \times 15}{4 \times 15} = \frac{45}{60}, \frac{1 \times 10}{6 \times 10} = \frac{10}{60}$$

Sample answer: $\frac{9}{12}$ and $\frac{2}{12}; \frac{3 \times 3}{4 \times 3} = \frac{9}{12}, \frac{1 \times 2}{6 \times 2} = \frac{2}{12}$

Dell River Drawbridge Openings

Bridge Name	Time of Opening
Asher Cross	On the hour
Colby	On the $\frac{3}{4}$ hour
Rainbow	On the $\frac{2}{3}$ hour
Red Bank	On the $\frac{1}{4}$ hour
Wave	On the $\frac{1}{6}$ hour

11. **Higher Order Thinking** Phil baked two kinds of pies. Each pie pan was the same size. He served $\frac{1}{2}$ of the blueberry pie. He served $\frac{1}{4}$ of the apple pie. If each pie had 8 pieces to start, what fraction in eighths of the apple pie did he serve? How many more pieces of the blueberry pie than the apple pie did he serve?

$\frac{2}{8}$; 2 more pieces

12. **Look for Relationships** Shelly is trying to improve her running time for a track race. She ran the first race in 43.13 seconds. Her time was 43.1 seconds in the second race and 43.07 seconds in the third race. If this pattern continues, what will Shelly's time be in the fourth race?

43.04 seconds

13. Alicia measured $\frac{1}{4}$ yard of the Blue Diamonds fabric and $\frac{5}{6}$ yard of the Yellow Bonnets fabric to make a quilt. Rename each length of fabric. Use the number of inches in a yard as a common denominator.

HINT: 1 yard = 3 feet; 1 foot = 12 inches

Blue Diamonds, $\frac{9}{36}$ yd; Yellow Bonnets, $\frac{30}{36}$ yd



Assessment Practice

14. Choose all the numbers that could be common denominators for $\frac{2}{3}$ and $\frac{7}{9}$.

- ☐ 6
☒ 9
☒ 18
☒ 27
☐ 30

15. Choose all the numbers that could be common denominators for $\frac{1}{9}$ and $\frac{1}{2}$.

- ☐ 11
☐ 16
☒ 18
☒ 36
☐ 45