Finding Common Denominators

How to find a common denominator.

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.

How to rename fractions to have the same denominator.

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

Multiply the numerator and denominator by the same nonzero numbers.

The renamed fractions are \( \frac{16}{40} \) and \( \frac{15}{40} \).

In 1 through 8, find a common denominator for each pair of fractions.

1. \( \frac{2}{7} \) and \( \frac{1}{2} \)
2. \( \frac{4}{5} \) and \( \frac{2}{3} \)
3. \( \frac{3}{4} \) and \( \frac{5}{6} \)
4. \( \frac{7}{8} \) and \( \frac{3}{10} \)
5. \( \frac{3}{4} \) and \( \frac{5}{16} \)
6. \( \frac{1}{9} \) and \( \frac{1}{2} \)
7. \( \frac{2}{3} \) and \( \frac{1}{8} \)
8. \( \frac{7}{20} \) and \( \frac{4}{15} \)

In 9 through 16, find a common denominator for each pair of fractions. Then rename each fraction in the pair.

9. \( \frac{4}{10} \) and \( \frac{1}{5} \)
10. \( \frac{4}{9} \) and \( \frac{4}{6} \)
11. \( \frac{1}{2} \) and \( \frac{1}{7} \)
12. \( \frac{2}{3} \) and \( \frac{3}{18} \)
13. \( \frac{4}{16} \) and \( \frac{2}{3} \)
14. \( \frac{1}{6} \) and \( \frac{1}{4} \)
15. \( \frac{2}{20} \) and \( \frac{1}{8} \)
16. \( \frac{7}{12} \) and \( \frac{7}{15} \)