

# Estimating with Fractions (pages 268–271)

Estimating helps you find answers when you only need an approximate solution. Estimating before you do exact calculations helps you check your work.

<p><b>Estimating with Fractions and Mixed Numbers</b></p>	<p>To estimate the sum or difference of fractions:</p> <ul style="list-style-type: none"> <li>• Round each fraction to 0, <math>\frac{1}{2}</math>, or 1, whichever is closest.</li> <li>• Calculate with your rounded fractions.</li> </ul> <p>To estimate the sum, difference, or product of mixed numbers:</p> <ul style="list-style-type: none"> <li>• Round each mixed number to the nearest whole number.</li> <li>• Calculate with these whole numbers.</li> </ul>
---	---

## EXAMPLES

**A** Estimate  $\frac{4}{7} - \frac{1}{5}$ .

Think: Half of 7 is  $3\frac{1}{2}$ , so  $\frac{4}{7}$  is close to  $\frac{1}{2}$ .

$\frac{1}{5}$  is close to 0.

Calculate with the rounded fractions:  $\frac{1}{2} - 0 = \frac{1}{2}$ .

$\frac{4}{7} - \frac{1}{5}$  is about  $\frac{1}{2}$ .

**B** Estimate  $2\frac{7}{8} + 1\frac{1}{6}$ .

Think:  $2\frac{7}{8}$  is close to 3.

$1\frac{1}{6}$  is close to 1.

Calculate with the rounded numbers:  $3 + 1 = 4$ .

$2\frac{7}{8} + 1\frac{1}{6}$  is about 4.

## Try These Together

1. Round  $\frac{2}{9}$  to 0,  $\frac{1}{2}$ , or 1.

HINT:  $4\frac{1}{2}$  ninths equals  $\frac{1}{2}$ .

2. Round  $\frac{11}{12}$  to 0,  $\frac{1}{2}$ , or 1.

HINT:  $\frac{6}{12}$  is equal to  $\frac{1}{2}$ .

## PRACTICE

Round each fraction to 0,  $\frac{1}{2}$ , or 1.

3.  $\frac{1}{8}$

4.  $\frac{9}{16}$

5.  $\frac{8}{9}$

6.  $\frac{3}{7}$

Round to the nearest whole number.

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

8.  $5\frac{1}{6}$

9.  $4\frac{2}{5}$

10.  $8\frac{7}{8}$

Estimate.

11.  $\frac{5}{8} + \frac{1}{6}$

12.  $1\frac{10}{11} + \frac{9}{10}$

13.  $4\frac{1}{5} - 3\frac{2}{9}$

14.  $\frac{1}{11} \times \frac{4}{5}$



15. **Standardized Test Practice** Estimate the difference between  $5\frac{4}{5}$  and  $2\frac{2}{7}$ .

**A** 3

**B** 4

**C** 6

**D** 5

Answers: 1. 0 2. 1 3. 0 4.  $\frac{2}{1}$  5. 1 6.  $\frac{2}{1}$  7. 3 8. 5 9. 4 10. 9 11.  $\frac{2}{1}$  12. 3 13. 1 14. 0 15. B