



5-2 Estimating Sums and Differences

(Pages 229–233)

You can use estimation to get a quick and easy answer when a precise answer is not necessary. When you do need a precise answer, estimating before you calculate is a good way to see if your answer is reasonable.

Estimating	<ul style="list-style-type: none"> You can estimate with decimal numbers by rounding each to a convenient place-value position. Often the greatest place-value position they all share is used. To estimate the sum or difference of mixed numbers, round each mixed number to the nearest whole number. To estimate the sum or difference of proper fractions, round each fraction to 0, $\frac{1}{2}$, or 1, whichever is nearest.
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EXAMPLES

A Estimate $2\frac{1}{3} + 4\frac{3}{4}$.

$2\frac{1}{3}$ rounded to the nearest whole number is 2.

$4\frac{3}{4}$ rounded to the nearest whole number is 5.

The sum $2\frac{1}{3} + 4\frac{3}{4}$ is about $2 + 5$ or 7.

B Estimate $1.456 + 5.4 + 14.06$.

The greatest place-value position they all share is the ones place.

$$1.456 \rightarrow 1$$

$$5.4 \rightarrow 5$$

$$14.06 \rightarrow +14$$

$$\underline{20}$$

Try These Together

1. Estimate $\frac{5}{6} + \frac{5}{12}$.

HINT: $\frac{5}{12}$ is close to $\frac{6}{12}$ or $\frac{1}{2}$.

2. Estimate $20.75 - 13.12$.

HINT: The greatest place-value position 20.75 and 13.12 share is the tens place.

PRACTICE

Estimate each sum or difference.

3. $20.791 + 5.23$

4. $\$10 - \3.79

5. $72.43 - 59.7$

6. $\frac{11}{12} + \frac{4}{7}$

7. $\frac{4}{5} + \frac{8}{9}$

8. $\frac{7}{8} - \frac{6}{10}$

9. $2\frac{3}{5} - \frac{11}{23}$

10. $7\frac{5}{9} + 9\frac{1}{10}$

11. $\frac{15}{16} - \frac{3}{6}$



12. **Standardized Test Practice** Which of the following is the best estimate for $\frac{3}{8} + 2\frac{4}{9}$?

A 2

B 3

C $3\frac{1}{2}$

D 4

Answers: Estimates may vary. 1. $1\frac{1}{2}$ 2. 8 3. 26 4. \$6 5. 10 6. $1\frac{2}{3}$ 7. 2 8. $\frac{2}{1}$ 9. 2 10. 17 11. $\frac{2}{1}$ 12. B
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