Adding and Subtracting Mixed Numbers

Adding and Subtracting Mixed Numbers: Models and Computation

Name _____ **Date** _____ **Score** _____ / 8

QUICK REVIEW

An improper fraction and a mixed number can name the same amount: $2\frac{3}{5} = \frac{2\times5+3}{5} = \frac{13}{5}$. After finding a common denominator, combine the numerators. Divide the new numerator by the denominator to rename the result.

Worked example

Find $4\frac{1}{3} - 1\frac{3}{4}$.

1. Convert to improper fractions: $4\frac{1}{3} = \frac{13}{3}$ and $1\frac{3}{4} = \frac{7}{4}$.
2. A common denominator is 12: $\frac{13}{3} = \frac{52}{12}$ and $\frac{7}{4} = \frac{21}{12}$.
3. $\frac{13}{3} - \frac{7}{4} = \frac{52-21}{12} = \frac{31}{12}$.
4. Rename the result: $\frac{31}{12} = 2\frac{7}{12}$.
Answer: $2\frac{7}{12}$.

Practice Problems

Show your thinking.

1. Find $1\frac{5}{6} + 2\frac{3}{4}$. Give a mixed number.

2. Find $5\frac{1}{4} - 2\frac{2}{3}$. Show the conversions.

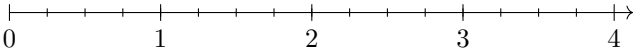
3. Regroup a whole to find $6\frac{1}{5} - 3\frac{4}{5}$. Show the whole you regrouped.

4. Find $2\frac{2}{3} + 1\frac{1}{3}$. Explain why the sum is a whole number.

5. Add $3\frac{1}{2}$ and $2\frac{7}{8}$. Write a mixed number.

6. Is $2\frac{3}{4} + 1\frac{3}{8}$ less than, equal to, or greater than 4? By how much?

7. Start at $2\frac{1}{4}$ on the number line. Each small interval is $\frac{1}{4}$. Show a jump of $1\frac{1}{2}$ to the right and label the endpoint.



8. Add $1\frac{3}{4} + 2\frac{1}{2} + 1\frac{1}{4}$ by combining wholes and fourths.

Answer Key

1. $4\,\frac{7}{12}$.
2. $2\,\frac{7}{12}$.
3. $2\frac{2}{5}$.
4. 4; the three thirds make one whole.
5. $6\,\frac{3}{8}$.
6. Greater by $\frac{1}{8}$.
7. $3\frac{3}{4}$.
8. $5\frac{1}{2}$.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Convert to improper fractions: $1\,\frac{5}{6} = \frac{11}{6}$ and $2\,\frac{3}{4} = \frac{11}{4}$.
2. A common denominator is 12: $\frac{11}{6} = \frac{22}{12}$ and $\frac{11}{4} = \frac{33}{12}$.
3. $\frac{11}{6} + \frac{11}{4} = \frac{22+33}{12} = \frac{55}{12}$.
4. Rename the result: $\frac{55}{12} = 4\,\frac{7}{12}$.

Problem 2

1. Convert to improper fractions: $5\,\frac{1}{4} = \frac{21}{4}$ and $2\,\frac{2}{3} = \frac{8}{3}$.
2. A common denominator is 12: $\frac{21}{4} = \frac{63}{12}$ and $\frac{8}{3} = \frac{32}{12}$.
3. $\frac{21}{4} - \frac{8}{3} = \frac{63-32}{12} = \frac{31}{12}$.
4. Rename the result: $\frac{31}{12} = 2\,\frac{7}{12}$.

Problem 3

1. Regroup: $6\frac{1}{5} = 5 + \frac{6}{5}$.
2. Subtract the whole numbers: $5 - 3 = 2$.
3. Subtract the fifths: $\frac{6}{5} - \frac{4}{5} = \frac{2}{5}$. Put them together: $2\frac{2}{5}$.

Problem 4

1. Combine the whole parts: $2 + 1 = 3$.
2. Combine the fraction parts: $\frac{2}{3} + \frac{1}{3} = \frac{3}{3} = 1$.
3. Add the extra whole: $3 + 1 = 4$, with no fraction left.

Problem 5

1. Convert to improper fractions: $3\,\frac{1}{2} = \frac{7}{2}$ and $2\,\frac{7}{8} = \frac{23}{8}$.
2. A common denominator is 8: $\frac{7}{2} = \frac{28}{8}$ and $\frac{23}{8} = \frac{23}{8}$.
3. $\frac{7}{2} + \frac{23}{8} = \frac{28+23}{8} = \frac{51}{8}$.
4. Rename the result: $\frac{51}{8} = 6\,\frac{3}{8}$.

Problem 6

1. Combine the wholes: $2 + 1 = 3$.
2. Combine the parts: $\frac{3}{4} + \frac{3}{8} = \frac{6}{8} + \frac{3}{8} = \frac{9}{8} = 1\frac{1}{8}$.
3. The sum is $4\frac{1}{8}$, which is $\frac{1}{8}$ above 4.

Problem 7

1. Start one fourth to the right of 2. A jump of one whole reaches $3\frac{1}{4}$.
2. A half is 2 more fourths. From $3\frac{1}{4}$, move two more ticks to $3\frac{3}{4}$.

Problem 8

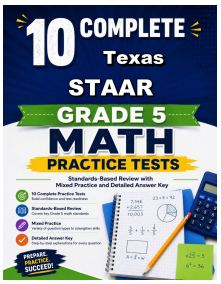
1. Whole-number parts total $1 + 2 + 1 = 4$.
2. Fractional parts total $\frac{3}{4} + \frac{2}{4} + \frac{1}{4} = \frac{6}{4} = 1\frac{1}{2}$.
3. Combine $4 + 1\frac{1}{2} = 5\frac{1}{2}$.

TESTINAR

Keep Building Grade 5 Math Skills

Choose the practice book matched to your state assessment and turn worksheet practice into a complete test-prep plan.

All Grade 5 books



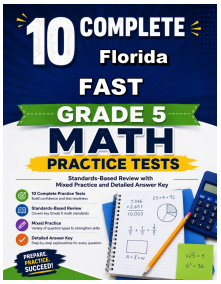
TEXAS STAAR

10 Full-Length Math Practice Tests

Build Grade 5 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook



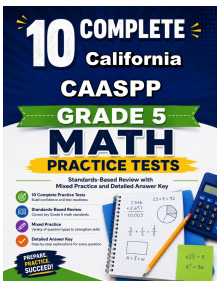
FLORIDA FAST

10 Full-Length Math Practice Tests

Build Grade 5 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook



CALIFORNIA CAASPP

10 Full-Length Math Practice Tests

Build Grade 5 accuracy, confidence, and test stamina with 10 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 5 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/5