Adding Mixed Numbers

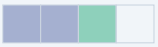
Name: _____	Date: _____	Score: _____ / 18

Quick Review and Helpful Hints

To add mixed numbers, add the whole numbers and the fractions separately. Give the fractions a common denominator first. If the fractions add up to an improper fraction (one whole or more), carry the extra whole number into the whole-number total. Simplify the result.

▷ **Example:** Add $2\frac{1}{3} + 1\frac{1}{2}$. **Work:** Common denominator 6: $\frac{1}{3} = \frac{2}{6}$ and $\frac{1}{2} = \frac{3}{6}$, so the fractions give $\frac{5}{6}$. The whole numbers give $2 + 1 = 3$.

★ **Answer:** $3\frac{5}{6}$



Add the fraction parts on a common bar: $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$.

Practice Problems

Add. Write each answer in simplest form.

1. $1\frac{1}{4} + 2\frac{1}{4}$ _____
2. $2\frac{1}{3} + 1\frac{1}{3}$ _____
3. $1\frac{1}{2} + 2\frac{1}{4}$ _____
4. $3\frac{1}{5} + 1\frac{2}{5}$ _____
5. $2\frac{2}{3} + 1\frac{1}{6}$ _____
6. $1\frac{3}{4} + 2\frac{1}{2}$ _____
7. $2\frac{1}{2} + 3\frac{1}{2}$ _____
8. $1\frac{1}{6} + 2\frac{1}{3}$ _____
9. $4\frac{2}{5} + 1\frac{1}{2}$ _____
10. $2\frac{3}{8} + 1\frac{1}{4}$ _____
11. $3\frac{1}{3} + 2\frac{1}{2}$ _____
12. $1\frac{5}{6} + 2\frac{1}{2}$ _____
13. $2\frac{2}{5} + 3\frac{2}{5}$ _____
14. $1\frac{7}{8} + 1\frac{1}{2}$ _____

Word Problems

15. A recipe uses $2\frac{1}{2}$ cups of flour for the batter and $1\frac{3}{4}$ cups for the topping. How much flour in all? _____
16. Jordan ran $3\frac{1}{3}$ miles on Saturday and $2\frac{1}{2}$ miles on Sunday. How far did Jordan run? _____
17. A task took $1\frac{1}{4}$ hours in the morning and $2\frac{1}{2}$ hours in the afternoon. What was the total time? _____
18. Two boards measure $4\frac{1}{2}$ feet and $3\frac{2}{3}$ feet. What is their combined length? _____

Answer Keys

1. $3\frac{1}{2}$
2. $3\frac{2}{3}$
3. $3\frac{3}{4}$
4. $4\frac{3}{5}$
5. $3\frac{5}{6}$
6. $4\frac{1}{4}$
7. 6
8. $3\frac{1}{2}$
9. $5\frac{9}{10}$
10. $3\frac{5}{8}$
11. $5\frac{5}{6}$
12. $4\frac{1}{3}$
13. $5\frac{4}{5}$
14. $3\frac{3}{8}$
15. $4\frac{1}{4}$ cups
16. $5\frac{5}{6}$ miles
17. $3\frac{3}{4}$ hours
18. $8\frac{1}{6}$ ft

Step-by-Step Explanations

1. Add the whole numbers and the fractions separately: $1 + 2 = 3$ and $\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$. Simplify $\frac{2}{4}$ to $\frac{1}{2}$, giving $3\frac{1}{2}$.

2. Wholes: $2 + 1 = 3$. Fractions: $\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$. Together that is $3\frac{2}{3}$.

3. Give the fractions denominator 4: $\frac{1}{2} = \frac{2}{4}$. Then $\frac{2}{4} + \frac{1}{4} = \frac{3}{4}$ and $1 + 2 = 3$, so $3\frac{3}{4}$.

4. Wholes: $3 + 1 = 4$. Fractions: $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$. Together: $4\frac{3}{5}$.

5. Common denominator 6: $\frac{2}{3} = \frac{4}{6}$, so $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$. With $2+1 = 3$, the answer is $3\frac{5}{6}$.

6. Denominator 4: $\frac{1}{2} = \frac{2}{4}$, so $\frac{3}{4}+\frac{2}{4} = \frac{5}{4} = 1\frac{1}{4}$. Carry the whole: $1+2+1 = 4$, giving $4\frac{1}{4}$.

7. Wholes: $2 + 3 = 5$. Fractions: $\frac{1}{2} + \frac{1}{2} = 1$. Carry it: $5 + 1 = 6$.

8. Common denominator 6: $\frac{1}{6} + \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$, and $1 + 2 = 3$, so $3\frac{1}{2}$.

9. LCD 10: $\frac{2}{5} = \frac{4}{10}$ and $\frac{1}{2} = \frac{5}{10}$, so $\frac{4}{10} + \frac{5}{10} = \frac{9}{10}$. With $4 + 1 = 5$, that is $5\frac{9}{10}$.

10. Denominator 8: $\frac{1}{4} = \frac{2}{8}$, so $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$ and $2 + 1 = 3$, giving $3\frac{5}{8}$.

11. Common denominator 6: $\frac{1}{3} = \frac{2}{6}$ and $\frac{1}{2} = \frac{3}{6}$, so $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$. With $3 + 2 = 5$, the answer is $5\frac{5}{6}$.

12. LCD 6: $\frac{5}{6} + \frac{3}{6} = \frac{8}{6} = 1\frac{1}{3}$. Carry the whole: $1 + 2 + 1 = 4$, giving $4\frac{1}{3}$.

13. Wholes: $2 + 3 = 5$. Fractions: $\frac{2}{5} + \frac{2}{5} = \frac{4}{5}$. Together: $5\frac{4}{5}$.

14. Denominator 8: $\frac{1}{2} = \frac{4}{8}$, so $\frac{7}{8} + \frac{4}{8} = \frac{11}{8} = 1\frac{3}{8}$. Carry: $1 + 1 + 1 = 3$, giving $3\frac{3}{8}$.

15. Add the two amounts. With fourths, $\frac{1}{2} = \frac{2}{4}$, so the fractions give $\frac{2}{4} + \frac{3}{4} = \frac{5}{4} = 1\frac{1}{4}$. With $2 + 1 = 3$, the total is $4\frac{1}{4}$ cups.

16. Add the two distances. With sixths, $\frac{1}{3} = \frac{2}{6}$ and $\frac{1}{2} = \frac{3}{6}$, so $\frac{2}{6} + \frac{3}{6} = \frac{5}{6}$. With $3 + 2 = 5$, that is $5\frac{5}{6}$ miles.

17. Add the times. With fourths, $\frac{1}{2} = \frac{2}{4}$, so $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$ and $1 + 2 = 3$, giving $3\frac{3}{4}$ hours.

18. Add the lengths. With sixths, $\frac{1}{2} = \frac{3}{6}$ and $\frac{2}{3} = \frac{4}{6}$, so $\frac{3}{6} + \frac{4}{6} = \frac{7}{6} = 1\frac{1}{6}$. With $4 + 3 = 7$, the total is $8\frac{1}{6}$ ft.

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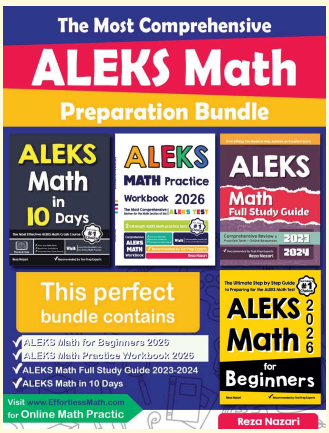

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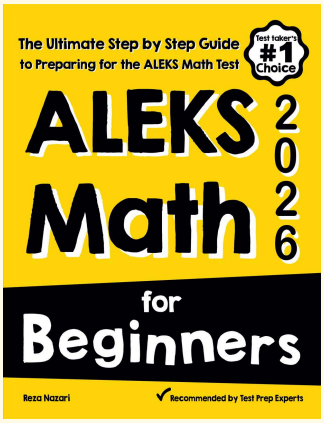

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