

Grade 5 · Adding and Subtracting Fractions with Unlike Denominators · Quiz

Common Core 5.NF.A.1, 5.NF.A.2 · mathovore.fr

Name: _____ Date: ____/____/____ Score: _____

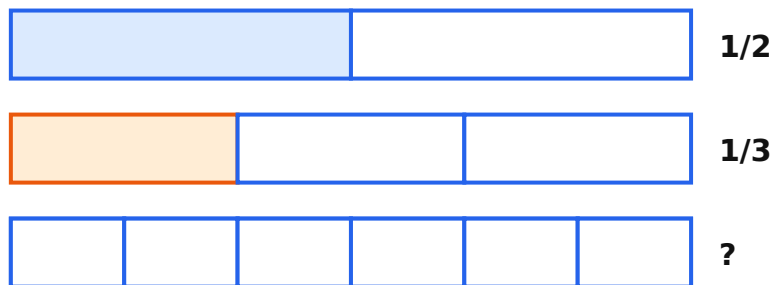
Take this ten-question quiz to check your skills with fractions that have unlike denominators, from bar models to word problems. Each question has exactly one correct answer. Read each explanation, because it shows the common mistake behind the wrong choices.

Grade 5 Common Core: 5.NF.A.1 · 5.NF.A.2

Questions

Question 1

What sum do the bars show?



A half and a third in sixths.

- A.
- B.
- C.
- D.

Question 2

What is $\frac{2}{3} + \frac{1}{6}$?

- A.
- B.
- C.
- D.

Question 3

What is $\frac{5}{6} - \frac{1}{4}$?

- A. $\frac{4}{2}$
- B. $\frac{13}{12}$
- C. $\frac{4}{12}$
- D. $\frac{7}{12}$

Question 4

What is $2\frac{1}{2} + 1\frac{3}{4}$?

- A. $3\frac{4}{6}$
- B. $3\frac{1}{4}$
- C. $4\frac{1}{4}$
- D. $5\frac{1}{4}$

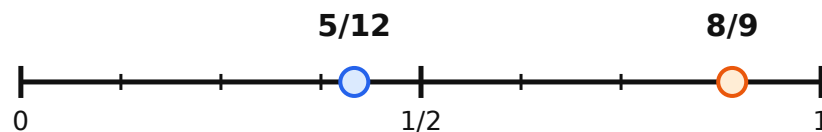
Question 5

What is $5\frac{1}{4} - 2\frac{3}{4}$?

- A. $3\frac{1}{2}$
- B. $2\frac{1}{2}$
- C. $3\frac{1}{4}$
- D. $2\frac{1}{4}$

Question 6

Which is the best estimate of $\frac{5}{12} + \frac{8}{9}$?



$\frac{5}{12}$ and $\frac{8}{9}$ on a number line.

- A. $\frac{1}{2}$
- B. 1
- C. $1\frac{1}{2}$
- D. 2

Question 7

Which sum is greater than 1?

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

- C. $\frac{1}{4} + \frac{2}{5}$
 D. $\frac{1}{6} + \frac{1}{2}$

Question 8

Noah has $\frac{3}{4}$ yard of ribbon and cuts off $\frac{1}{3}$ yard. How much ribbon is left?

- A. $\frac{2}{12}$ yard
 B. $\frac{1}{12}$ yard
 C. $\frac{5}{12}$ yard
 D. $\frac{1}{2}$ yard

Question 9

Priya reads for $1\frac{1}{2}$ hours on Saturday and $2\frac{1}{3}$ hours on Sunday. How long does she read in all?



Two reading times.

- A. $3\frac{2}{3}$ hours
 B. $3\frac{1}{3}$ hours
 C. $3\frac{1}{6}$ hours
 D. $3\frac{5}{6}$ hours

Question 10

Eli needs $2\frac{1}{4}$ cups of flour and has $1\frac{5}{6}$ cups. How much more flour does he need?

- A. $\frac{5}{12}$ cup
 B. $1\frac{5}{12}$ cups
 C. $4\frac{1}{12}$ cups
 D. $\frac{1}{2}$ cup

Answer key

1. **B** - One half is $\frac{3}{6}$ and one third is $\frac{2}{6}$, so the sum is $\frac{5}{6}$. Adding the numerators and the denominators gives $\frac{2}{5}$, a common mistake.
2. **B** - Rename $\frac{2}{3}$ as $\frac{4}{6}$, then $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$. Adding across gives $\frac{3}{9}$.
3. **D** - Rename with twelfths: $\frac{10}{12} - \frac{3}{12} = \frac{7}{12}$. Subtracting the numerators and denominators gives $\frac{4}{2}$, and subtracting only the numerators $5 - 1$ gives $\frac{4}{12}$.
4. **C** - $2\frac{2}{4} + 1\frac{3}{4} = 3\frac{5}{4} = 4\frac{1}{4}$. Forgetting to regroup the extra whole gives $3\frac{1}{4}$.
5. **B** - Regroup: $5\frac{1}{4} = 4\frac{5}{4}$, so $4\frac{5}{4} - 2\frac{3}{4} = 2\frac{2}{4} = 2\frac{1}{2}$. Subtracting the smaller fraction from the larger gives $3\frac{1}{2}$.
6. **C** - $\frac{5}{12}$ is close to $\frac{1}{2}$ and $\frac{8}{9}$ is close to 1, so the sum is about $1\frac{1}{2}$.
7. **A** - $\frac{3}{4} + \frac{1}{3} = \frac{9}{12} + \frac{4}{12} = \frac{13}{12}$, which is more than 1. The other sums are $\frac{5}{6}$, $\frac{13}{20}$, and $\frac{2}{3}$.
8. **C** - $\frac{3}{4} - \frac{1}{3} = \frac{9}{12} - \frac{4}{12} = \frac{5}{12}$ yard. Subtracting numerators and denominators gives $\frac{2}{1}$.
9. **D** - $1\frac{3}{6} + 2\frac{2}{6} = 3\frac{5}{6}$ hours. Adding across the fractions gives $3\frac{2}{5}$.
10. **A** - $2\frac{3}{12} - 1\frac{10}{12} = 1\frac{15}{12} - 1\frac{10}{12} = \frac{5}{12}$ cup. Mixing up the regrouping gives $1\frac{5}{12}$.

Remember:

- Only fractions with the same denominator can be added or subtracted directly.
- A common denominator is a multiple of both denominators, and the smallest one is the least common denominator.
- Renaming a fraction multiplies its numerator and denominator by the same number.
- When subtracting mixed numbers, regroup one whole if the first fraction is smaller.
- Benchmarks 0, $\frac{1}{2}$ and 1 give a quick estimate to check an answer.