

Addition and Subtraction of Fractions

Unit: Fractions and Decimals - Student Practice Worksheet

Overview: Kabir added $\frac{1}{4}$ and $\frac{1}{4}$ and got $\frac{2}{4}$. Then he added $\frac{1}{4}$ and $\frac{1}{3}$ and, using the same method, got $\frac{2}{7}$. Anaya drew both as pizza slices — and the second answer clearly didn't match the picture at all. One addition needed no extra step. The other needed the denominators to match FIRST.

Practice Questions (30 Total)

Section A - Easy

Q1. Two separate quarter-bars, one teal and one maroon. What is $\frac{1}{4} + \frac{1}{4}$?



- ☐ A. $\frac{2}{4}$
- ☐ B. $\frac{2}{8}$
- ☐ C. $\frac{1}{8}$
- ☐ D. $\frac{1}{4}$

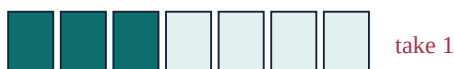
Q2. What are like fractions?

- ☐ A. Fractions with the same numerator
- ☐ B. Fractions with the same denominator
- ☐ C. Fractions bigger than 1
- ☐ D. Fractions equal to each other

Q3. Add $\frac{2}{5} + \frac{1}{5}$.

- ☐ A. $\frac{3}{10}$
- ☐ B. $\frac{2}{10}$
- ☐ C. $\frac{3}{5}$
- ☐ D. $\frac{1}{5}$

Q4. Seven equal parts, three teal, then one taken. What is $\frac{3}{7} - \frac{1}{7}$?



- ☐ A. $\frac{2}{14}$
- ☐ B. $\frac{3}{7}$
- ☐ C. $\frac{4}{7}$
- ☐ D. $\frac{2}{7}$

Q5. What must you do before adding unlike fractions?

- ☐ A. Convert them to a common denominator
- ☐ B. Add the denominators directly
- ☐ C. Multiply the numerators
- ☐ D. Nothing, add directly

Q6. Convert $\frac{1}{3}$ to an equivalent fraction with denominator 12.

- ☐ A. $\frac{3}{12}$
- ☐ B. $\frac{4}{12}$
- ☐ C. $\frac{1}{12}$
- ☐ D. $\frac{12}{3}$

Q7. Twelve parts: 3 teal then 4 maroon. What is $\frac{3}{12} + \frac{4}{12}$?



3 teal + 4 maroon of 12

- ☐ A. $\frac{7}{24}$
- ☐ B. $\frac{1}{12}$
- ☐ C. $\frac{12}{12}$
- ☐ D. $\frac{7}{12}$

Q8. What are unlike fractions?

- ☐ A. Fractions with different denominators
- ☐ B. Fractions with different numerators only
- ☐ C. Fractions that are equal
- ☐ D. Fractions bigger than 1

Q9. Convert $\frac{1}{4}$ to an equivalent fraction with denominator 12.

- ☐ A. $\frac{4}{12}$
- ☐ B. $\frac{1}{12}$
- ☐ C. $\frac{3}{12}$
- ☐ D. $\frac{12}{4}$

Q10. Subtract $\frac{5}{9} - \frac{2}{9}$, then say why the denominator stays 9.

- ☐ A. $\frac{3}{18}$
- ☐ B. $\frac{3}{9}$
- ☐ C. $\frac{7}{9}$
- ☐ D. $\frac{2}{9}$

Section B - Medium

Q11. Twelfths: 3 teal (from $\frac{1}{4}$) plus 4 maroon (from $\frac{1}{3}$). Sum?

twelfths



- ☐ A. $\frac{7}{12}$
- ☐ B. $\frac{2}{7}$
- ☐ C. $\frac{2}{12}$
- ☐ D. $\frac{1}{12}$

Q12. Kabir adds $\frac{2}{5} + \frac{3}{10}$ without converting denominators, getting $\frac{5}{15}$. What went wrong?

- ☐ A. Nothing, $\frac{5}{15}$ is correct
- ☐ B. He should have multiplied instead of added
- ☐ C. The fractions cannot be added at all
- ☐ D. He must convert to a common denominator first

Q13. Subtract $\frac{3}{5} - \frac{1}{4}$.

- ☐ A. $\frac{2}{1}$
- ☐ B. $\frac{7}{20}$
- ☐ C. $\frac{2}{20}$

☐ D. $\frac{4}{9}$

Q14. $\frac{3}{6} + \frac{2}{6} + \frac{1}{6}$ fill the bar. What total is that?



$$\frac{3}{6} + \frac{2}{6} + \frac{1}{6}$$

☐ A. 1 whole

☐ B. $\frac{3}{6}$

☐ C. $\frac{5}{6}$

☐ D. $\frac{1}{6}$

Q15. Add $\frac{1}{6} + \frac{1}{4}$.

☐ A. $\frac{5}{12}$

☐ B. $\frac{2}{10}$

☐ C. $\frac{1}{12}$

☐ D. $\frac{2}{12}$

Q16. Add $\frac{2}{3} + \frac{1}{6}$.

☐ A. $\frac{3}{9}$

☐ B. $\frac{3}{6}$

☐ C. $\frac{5}{6}$

☐ D. $\frac{1}{2}$

Q17. Five of six teal, then remove two sixths. What remains?



☐ A. $\frac{4}{3}$

☐ B. $\frac{4}{6}$

☐ C. $\frac{1}{3}$

☐ D. $\frac{1}{2}$

Q18. Subtract $\frac{7}{10} - \frac{1}{5}$.

☐ A. $\frac{6}{5}$

- ☐ B. $5/10$
- ☐ C. $1/2$
- ☐ D. $3/5$

Q19. Add $3/8 + 1/4$.

- ☐ A. $4/12$
- ☐ B. $5/8$
- ☐ C. $4/8$
- ☐ D. $1/2$

Q20. $2/5 + 1/4$ eaten from a whole. How much cake is left, and why twentieths?

- ☐ A. $13/20$
- ☐ B. $7/20$
- ☐ C. $3/9$
- ☐ D. $1/5$

Section C - Challenge

Q21. On 24ths, 14 then 15 steps pass 1. What is $7/12 + 5/8$?

24ths: 14 + 15



- ☐ A. $12/20$
- ☐ B. $1/2$
- ☐ C. $29/24$
- ☐ D. $12/8$

Q22. Why must fractions share a denominator before their numerators can be meaningfully added?

- ☐ A. The denominator tells you the piece SIZE
- ☐ B. It's just an arbitrary rule with no real reason
- ☐ C. Numerators can always be added regardless of denominators
- ☐ D. Denominators never actually matter

Q23. Subtract $5/6 - 3/4 - 1/12$.

- ☐ A. $1/12$
- ☐ B. $1/6$
- ☐ C. $2/12$
- ☐ D. 0

Q24. Halving bars stacked toward a whole. What is $1/2 + 1/4 + 1/8 + 1/16$?



$$1/2 + 1/4 + 1/8 + 1/16$$

- ☐ A. Exactly 1 whole, reached exactly
- ☐ B. $1/2$, no real change
- ☐ C. $15/16$, edging closer to 1 whole
- ☐ D. $4/16$, a much smaller value

Q25. Why is using the LCM (not just ANY common multiple) the most efficient choice for a common denominator?

- ☐ A. Any common multiple works exactly as well, LCM has no advantage
- ☐ B. It keeps the numbers smallest, easiest to work with
- ☐ C. The LCM is always wrong to use
- ☐ D. Only the LCM produces a valid answer at all

Q26. Kabir subtracts a bigger fraction from a smaller one, like $1/3 - 3/4$, without checking order first. What should he expect?

- ☐ A. An error with no valid answer
- ☐ B. A negative result, since he's subtracting a bigger value from a smaller one
- ☐ C. The result is always automatically positive
- ☐ D. The denominators must be swapped

Q27. Cards 4, 6, and 9. Which common denominator should Anaya use?



- ☐ A. 19, the sum of the denominators
- ☐ B. 216, the product of all three

- ☐ C. 9, the largest denominator alone
- ☐ D. 36, the LCM of 4, 6, and 9

Q28. Why does the RESULT of adding two proper fractions sometimes come out improper?

- ☐ A. Their combined value can genuinely exceed 1 whole, even if each piece alone is less than 1
- ☐ B. This can actually never happen
- ☐ C. It only happens when subtracting, never adding
- ☐ D. It means an arithmetic mistake was made

Q29. Why doesn't the LCM-based common-denominator method work if you accidentally use the WRONG multiplying factor on only one fraction?

- ☐ A. It changes that fraction's actual value, breaking the equivalence needed for a correct sum
- ☐ B. It has no effect on the final answer at all
- ☐ C. The method only works with even denominators
- ☐ D. It only matters for subtraction, not addition

Q30. $\frac{2}{3}$ cup plus $\frac{3}{4}$ cup flour: why must the common-denominator sum be exact?

- ☐ A. It's purely a classroom convention with no real-world use
- ☐ B. Real measured amounts must combine to the correct actual total, not an arithmetically convenient shortcut
- ☐ C. Recipes never actually use unlike fractions
- ☐ D. The method only matters for numbers bigger than 1

Answer Key

Q1: (A) (a) $\frac{2}{4}$. Same denominator, add numerators: $1+1=2$.

Q2: (B) (b) Fractions with the same denominator.

Q3: (C) (c) $\frac{3}{5}$. $2+1=3$, denominator stays 5.

Q4: (D) (d) $\frac{2}{7}$. $3-1=2$, denominator stays 7.

Q5: (A) (a) Convert them to a common denominator.

Q6: (B) (b) $\frac{4}{12}$. $12 \div 3 = 4$, so multiply top and bottom by 4.

Q7: (D) (d) $\frac{7}{12}$. $3+4=7$, denominator stays 12.

Q8: (A) (a) Fractions with different denominators.

Q9: (C) (c) $\frac{3}{12}$. $12 \div 4 = 3$, so multiply top and bottom by 3.

Q10: (B) (b) $\frac{3}{9}$. $5-2=3$, denominator stays 9.

Q11: (A) (a) $\frac{7}{12}$. LCM of 4,3 is 12: $\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$.

Q12: (D) (d) He must convert to a common denominator first, not add denominators directly — the correct answer is $\frac{4}{10} + \frac{3}{10} = \frac{7}{10}$.

Q13: (B) (b) $\frac{7}{20}$. LCM of 5,4 is 20: $\frac{12}{20} - \frac{5}{20} = \frac{7}{20}$.

Q14: (A) (a) 1 whole. LCM 6: $\frac{3}{6} + \frac{2}{6} + \frac{1}{6} = \frac{6}{6} = 1$.

Q15: (A) (a) $\frac{5}{12}$. LCM of 6,4 is 12: $\frac{2}{12} + \frac{3}{12} = \frac{5}{12}$.

Q16: (C) (c) $\frac{5}{6}$. LCM of 3,6 is 6: $\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$.

Q17: (D) (d) $\frac{1}{2}$. LCM of 6,3 is 6: $\frac{5}{6} - \frac{2}{6} = \frac{3}{6} = \frac{1}{2}$.

Q18: (C) (c) $\frac{1}{2}$. LCM of 10,5 is 10: $\frac{7}{10} - \frac{2}{10} = \frac{5}{10} = \frac{1}{2}$.

Q19: (B) (b) $\frac{5}{8}$. LCM of 8,4 is 8: $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$.

Q20: (B) (b) $\frac{7}{20}$. Eaten: $\frac{8}{20} + \frac{5}{20} = \frac{13}{20}$. Left: $\frac{20}{20} - \frac{13}{20} = \frac{7}{20}$.

Q21: (C) (c) $\frac{29}{24}$. LCM of 12,8 is 24: $\frac{14}{24} + \frac{15}{24} = \frac{29}{24}$ (an improper fraction, equal to 1 and $\frac{5}{24}$).

Q22: (A) (a) The denominator tells you the SIZE of each piece; different sizes can't be combined by just adding counts, the same reason you can't add 3 apples and 5 bananas into 8 apple-bananas.

Q23: (D) (d) 0. LCM 12: $\frac{10}{12} - \frac{9}{12} - \frac{1}{12} = 0$.

Q24: (C) (c) $\frac{15}{16}$ — getting closer and closer to 1 whole without quite reaching it, a classic pattern from repeatedly halving.

Q25: (B) (b) It keeps the numbers as small as possible, making arithmetic easier and less likely to need simplifying, though any common multiple would still give a correct (if messier) answer.

Q26: (B) (b) A negative result, since he's subtracting a bigger value from a smaller one — $\frac{1}{3} - \frac{3}{4} = \frac{4}{12} - \frac{9}{12} = -\frac{5}{12}$.

Q27: (D) (d) 36, the LCM of 4, 6, and 9 — the smallest number all three denominators divide into evenly.

Q28: (A) (a) Their combined value can genuinely exceed 1 whole, even if each piece alone is less than 1, like $\frac{3}{4} + \frac{1}{2} = \frac{5}{4}$.

Q29: (A) (a) It changes that fraction's actual value, breaking the equivalence needed for a correct sum — multiplying numerator and denominator by DIFFERENT numbers changes the value, unlike multiplying both by the SAME number.

Q30: (B) (b) Real measured amounts must combine to the correct actual total, not an arithmetically convenient shortcut — getting a real recipe's total flour right requires the mathematically correct sum, $\frac{17}{12}$ cups (1 and $\frac{5}{12}$ cups).

You've got this! Keep learning and shining! - Ruchi Math Coaching