GOLD EDITION

PRACTICE COACH™ PLUS

Mathematics 5

triumphlearning™ Coach® Practice Coach™ PLUS

Contents

Add Fractions

Coached Instruction

ERROR ANALYSIS

Alberto corrected Holly's mistake in the problem below. Analyze their work.

Which is the best estimate for the sum of $\frac{5}{7} + \frac{4}{5}$?

A. $\frac{1}{2}$ **B.** between $\frac{1}{2}$ and 1 **C.** 1 **D.** greater than 1

HOLLY'S METHOD

I added the numerators and then added the denominators.

$\frac{5}{7} + \frac{4}{5} = \frac{5 + 4}{7 + 5} = \frac{9}{12}$

The fraction $\frac{9}{12}$ in simplest form is $\frac{3}{4}$.

Since $\frac{2}{4} = \frac{1}{2}$ and $\frac{4}{4} = 1$, the sum $\frac{3}{4}$ is between $\frac{1}{2}$ and 1.

I think Choice B is correct.

Alberto realizes that Holly made a mistake.

ALBERTO'S CORRECTION

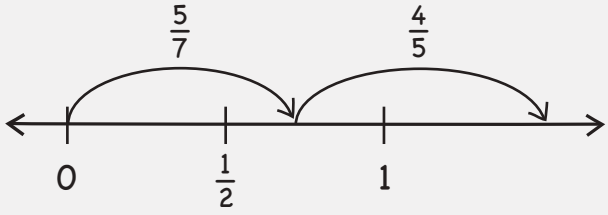
I compared each addend to $\frac{1}{2}$ and 1.

$\frac{5}{7}$ is greater than $\frac{1}{2}$, and less than 1.

$\frac{4}{5}$ is also greater than $\frac{1}{2}$ and less than 1.

The sum of two fractions greater than $\frac{1}{2}$ will be greater than 1.

I drew a number line to check.



I can see that the sum will be greater than 1, so Choice D is correct.

DISCUSS

What was Holly's mistake?

How can she prevent that mistake in the future?

APPLY

Susie and Winston are finding the sum of $\frac{2}{5}$ and $\frac{3}{8}$. Susie thinks the sum is less than 1. Winston thinks the sum is greater than 1.

Who is correct? Justify your answer.

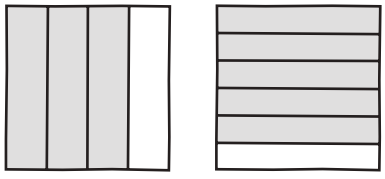
Compare Jack's and Sumi's methods of solving the problem below.

What is the sum of $\frac{3}{4} + \frac{5}{6}$ in simplest form?

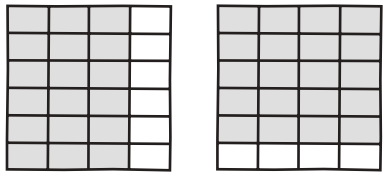
A. $\frac{4}{5}$ **B.** $\frac{2}{3}$ **C.** $1\frac{4}{5}$ **D.** $1\frac{7}{12}$

JACK'S METHOD

First, I drew a model for each fraction.



Then I drew lines so that both models have 6 rows and 4 columns.



The model for $\frac{3}{4}$ has 18 of 24 parts shaded.

The model for $\frac{5}{6}$ has 20 of 24 parts shaded.

Together, there are 38 of 24 parts shaded, or $\frac{38}{24}$.

$\frac{38}{24} = \frac{24}{24} + \frac{14}{24}$, or $1\frac{14}{24}$

$\frac{14}{24} = \frac{14 \div 2}{24 \div 2} = \frac{7}{12}$

The sum is $1\frac{7}{12}$. Choice D is correct.

SUMI'S METHOD

I looked for a common multiple of 4 and 6.

Multiples of 4: 4, 8, 12, 16

Multiples of 6: 6, 12, 18

I wrote equivalent fractions using 12 as the denominator.

$\frac{3}{4} = \frac{3 \times 3}{4 \times 3} = \frac{9}{12}$

$\frac{5}{6} = \frac{5 \times 2}{6 \times 2} = \frac{10}{12}$

Then I added the numerators of the fractions.

$\frac{9}{12} + \frac{10}{12} = \frac{9 + 10}{12} = \frac{19}{12}$

$\frac{19}{12} = \frac{12}{12} + \frac{7}{12}$, or $1\frac{7}{12}$

Choice D is correct.

DISCUSS

Which step in Jack's method shows how he finds a common denominator?

Why is it different than the denominator Sumi used?

APPLY

What is the sum of $\frac{2}{6} + \frac{5}{9}$ in simplest form?

A. $\frac{7}{15}$ **B.** $\frac{7}{18}$ **C.** $\frac{8}{9}$ **D.** $1\frac{1}{9}$

Choose a method to solve. Show how you know with a picture or explanation.

Compare Stephanie's and Justin's methods of solving the problem below.

The fifth-grade classes at Orchard Elementary School collected newspaper for recycling. The table shows the number of pounds each class collected.

The fifth graders set a goal to collect at least 20 pounds of newspaper. Did they reach their goal?

Newspaper Collected

Fifth-Grade Class	Number of Pounds
Mrs. Brown	$4\frac{1}{4}$
Mr. Hayes	$4\frac{1}{2}$
Mr. Hathaway	$5\frac{3}{4}$
Miss Steven	$6\frac{1}{2}$

STEPHANIE'S METHOD

I added all of the numbers in the table.

Before adding, I changed halves to fourths so that the fractions have a common denominator.

$4\frac{1}{4} + 4\frac{1}{2} + 5\frac{3}{4} + 6\frac{1}{2} = 4\frac{1}{4} + 4\frac{2}{4} + 5\frac{3}{4} + 6\frac{2}{4} = 19\frac{8}{4}$

$19 + \frac{8}{4} = 19 + 2 = 21$

The fifth graders collected a total of 21 pounds of newspaper, so they collected more than their goal.

JUSTIN'S METHOD

I added the whole numbers and fractions separately and used estimation.

First, I mentally added the whole numbers: $4 + 4 + 5 + 6 = 19$.

Then I looked at the fractions.

I know that the sum of $\frac{1}{4} + \frac{1}{2}$ will be less than 1.

I know that the sum of $\frac{3}{4} + \frac{1}{2}$ will be greater than 1.

So, I know that the sum of all four fractions will be greater than 1.

Since $19 + 1 = 20$, I can tell that the fifth graders reached their goal.

DISCUSS

Whose method would you use to solve a problem like this?

If you were asked for the exact amount collected, which method would be best?

APPLY

Did Mrs. Brown's and Mr. Hathaway's classes combined collect more or fewer pounds of newspaper than Mr. Hayes' and Miss Steven's classes combined?

Show your work and justify your answer.

Lesson Practice | Part 1

Choose the correct answer.

1. What is $\frac{4}{9} + \frac{1}{9}$?

A. $\frac{1}{3}$

B. $\frac{3}{9}$

C. $\frac{5}{9}$

D. $\frac{2}{3}$

2. What is $1\frac{3}{4} + 3\frac{1}{8}$?

A. $4\frac{1}{3}$

B. $4\frac{1}{2}$

C. $4\frac{7}{8}$

D. 5

3. Paulo shaded $\frac{1}{3}$ of a grid. Then he shaded another $\frac{2}{5}$ of the grid. What fraction of the grid did he shade?

A. $\frac{1}{5}$

B. $\frac{3}{10}$

C. $\frac{3}{5}$

D. $\frac{11}{15}$

4. What is $3\frac{5}{6} + 2\frac{2}{3}$?

A. $5\frac{1}{3}$

B. $5\frac{1}{2}$

C. 6

D. $6\frac{1}{2}$

5. Sophie takes tap and ballet. Today she practiced tap for $\frac{3}{4}$ hour and ballet for $\frac{1}{2}$ hour. How many hours did Sophie spend practicing dance?

A. $\frac{2}{3}$ hour

B. $1\frac{1}{4}$ hours

C. $1\frac{3}{8}$ hours

D. $1\frac{1}{2}$ hours

6. Frances has $5\frac{1}{6}$ yards of red yarn and $2\frac{5}{6}$ yards of blue yarn. How many yards of yarn does she have in all?

A. $3\frac{2}{3}$ yards

B. $7\frac{2}{3}$ yards

C. $7\frac{5}{6}$ yards

D. 8 yards

7. What is $\frac{7}{9} + \frac{1}{6}$?

A. $\frac{17}{18}$

B. $\frac{8}{9}$

C. $\frac{15}{18}$

D. $\frac{5}{6}$

8. What is $1\frac{5}{8} + 2\frac{3}{16}$?

A. 4

B. $3\frac{13}{16}$

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

D. $3\frac{7}{16}$

9. Blake bought $\frac{3}{8}$ pound of cashew nuts, $\frac{1}{8}$ pound of almonds, and $\frac{5}{6}$ pound of walnuts.

A. What is the total weight of the nuts that Blake bought? Write the answer in simplest form. Show your work.

B. Explain how you found your answer for Part A.

Lesson Practice | Part 2

Choose the correct answer.

1. Which sum is less than 1?

A. $\frac{3}{8} + \frac{2}{5}$

B. $\frac{3}{5} + \frac{1}{2}$

C. $\frac{2}{3} + \frac{3}{4}$

D. $\frac{5}{8} + \frac{2}{3}$

2. Sebastian added $\frac{2}{3} + \frac{3}{5}$ and computed a sum of $\frac{5}{8}$. Which sentence is true?

A. Sebastian is correct because $2 + 3 = 5$ and $3 + 5 = 8$.

B. Sebastian is incorrect because $\frac{5}{8}$ is less than $\frac{3}{5}$.

C. Sebastian is incorrect because $\frac{5}{8}$ is less than $\frac{2}{3}$.

D. Sebastian is correct because when the addends are simplified the sum is $\frac{5}{8}$.

3. Skylar read a book for $2\frac{1}{4}$ hours and then spoke on the phone for $1\frac{1}{2}$ hours. How much time did Skylar spend reading and talking on the phone?

A. $3\frac{1}{3}$ hours

B. $3\frac{3}{4}$ hours

C. $4\frac{1}{4}$ hours

D. $4\frac{3}{4}$ hours

4. Ava made a rectangular drawing. The width of the drawing is $3\frac{1}{2}$ inches. The length is $1\frac{7}{8}$ inches longer than the width. What is the length of the drawing?

A. $4\frac{4}{5}$ inches

B. $5\frac{1}{8}$ inches

C. $5\frac{1}{4}$ inches

D. $5\frac{3}{8}$ inches

5. Find the sum.

$\frac{5}{12} + \frac{3}{5} = \square$

A. $1\frac{1}{30}$

B. $1\frac{1}{60}$

C. $\frac{59}{60}$

D. $\frac{8}{17}$

6. Brooke walked $1\frac{1}{4}$ miles from her home to the park. She walked $\frac{5}{8}$ mile longer on the way home. How far did Brooke walk in all?

A. $1\frac{1}{2}$ miles

B. $1\frac{7}{8}$ miles

C. $2\frac{1}{2}$ miles

D. $3\frac{1}{8}$ miles

7. Which sum is greater than 1?

A. $\frac{1}{2} + \frac{7}{12}$

B. $\frac{1}{4} + \frac{2}{5}$

C. $\frac{3}{8} + \frac{1}{4}$

D. $\frac{2}{3} + \frac{1}{10}$

8. Camden jogged $3\frac{7}{10}$ miles in the park and then $\frac{3}{4}$ mile back home. How far did Camden jog in all?

A. $4\frac{9}{20}$ miles

B. $4\frac{2}{5}$ miles

C. $4\frac{7}{20}$ miles

D. $3\frac{11}{14}$ miles

9. Find the sum.

$4\frac{2}{3} + 1\frac{5}{6} = \square$

A. $5\frac{7}{9}$

B. $6\frac{1}{3}$

C. $6\frac{1}{2}$

D. $6\frac{2}{3}$

10. Emilia lives $1\frac{3}{5}$ miles east of school. Valentina lives $1\frac{1}{2}$ miles west of school. How far do Emilia and Valentina live from each other?

A. $2\frac{4}{7}$ miles

B. $2\frac{9}{10}$ miles

C. 3 miles

D. $3\frac{1}{10}$ miles

11. Of the DVDs sold at the Meloy garage sale, $\frac{1}{3}$ are comedies, $\frac{1}{4}$ are dramas, and $\frac{1}{6}$ are music.

A. What fraction of the DVDs are comedies or dramas? Show your work.

B. What fraction of the DVDs are dramas or music? Show your work.

C. Did the Meloys sell any other type of DVDs? Explain your answer.

12. Is the sum of $\frac{3}{7} + \frac{5}{12}$ less than 1 or greater than 1? Show your work and explain your answer.

13. What is the sum of $\frac{3}{8} + \frac{4}{6}$ in simplest form? Show your work.

14. Malcolm ran four days last week. The table shows the distance he ran each day.

Day	Distance (in miles)
Monday	$3\frac{2}{5}$
Wednesday	$4\frac{1}{2}$
Thursday	$2\frac{2}{6}$
Saturday	$3\frac{3}{4}$

How far did Malcolm run on Monday and Wednesday? Show your work.

Did Malcolm run farther on Thursday and Saturday than he did on Monday and Wednesday? Explain your answer and show your work.