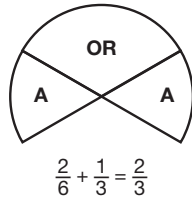


Student Guide

Questions 1–3 (SG p. 365)

- 1.* Solution satisfies all guidelines.
- 2.* Since the figure is made up of four aqua pieces, the solution does not satisfy the guidelines, “Use 2 or 3 pieces” or “Use at least one aqua piece, but not all aquas.”
- 3.* Another possible solution:



Homework (SG pp. 365–366)

Questions 1–8

1.
 - A. $\frac{1}{9}, \frac{1}{8}, \frac{1}{5}, \frac{1}{3}$
 - B. $\frac{3}{10}, \frac{3}{8}, \frac{3}{5}, \frac{3}{4}$
 - C. $\frac{1}{2}, \frac{5}{8}, \frac{2}{3}, \frac{3}{4}$
 - D. $\frac{1}{4}, \frac{3}{8}, \frac{2}{5}, \frac{5}{12}$
2.
 - A. $\frac{1}{8}, \frac{1}{5}, \frac{1}{3}, \frac{1}{2}$
 - B. $\frac{2}{10}, \frac{2}{6}, \frac{2}{5}, \frac{2}{4}$
 - C. $\frac{4}{12}, \frac{4}{8}, \frac{4}{6}, \frac{4}{5}$
 - D. $\frac{3}{10}, \frac{3}{8}, \frac{3}{5}, \frac{3}{4}$
- E. When the numerators are the same, the smaller fractions have the larger denominators.

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*Answers and/or discussion are included in the lesson.

“Now that we have all the clues, let’s get started,” said Nicholas.

After some work, the students found this solution:

They wrote this number sentence to represent their solution: $\frac{1}{2} + \frac{1}{6} = \frac{2}{3}$.

1. Look back at their clues and see if this solution fits all the clues.
2. One of the other groups found this solution to the same puzzle.

They wrote this number sentence: $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6} = \frac{2}{3}$. Look back at the clues. Does this solution fit all the clues? Why or why not?

Explore

3. Work with a group to find another solution to this puzzle. Make sure your solution fits all of the clues. Draw a picture of your solution and write a number sentence to represent your solution.

Homework

Solve the following problems. You may use your Fraction Chart.

1. Put the following fractions in order from smallest to largest.
 - A. $\frac{1}{5}, \frac{1}{9}, \frac{1}{8}, \frac{1}{3}$
 - B. $\frac{3}{10}, \frac{3}{4}, \frac{3}{8}, \frac{3}{5}$
 - C. $\frac{2}{3}, \frac{3}{4}, \frac{5}{8}, \frac{1}{2}$
 - D. $\frac{2}{5}, \frac{3}{8}, \frac{5}{12}, \frac{1}{4}$
2. Put the following fractions in order from smallest to largest.
 - A. $\frac{1}{3}, \frac{1}{5}, \frac{1}{2}, \frac{1}{8}$
 - B. $\frac{2}{6}, \frac{2}{4}, \frac{2}{5}, \frac{2}{10}$
 - C. $\frac{4}{5}, \frac{4}{12}, \frac{4}{8}, \frac{4}{6}$
 - D. $\frac{3}{8}, \frac{3}{10}, \frac{3}{5}, \frac{3}{4}$
- E. Explain a strategy for putting fractions in order when the numerators are all the same.

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3. Write a number sentence for each pair of fractions. Use the symbols $<$, $>$, or $=$ in each sentence.

A. $\frac{6}{8} \times 3$ B. $\frac{3}{5} > \frac{3}{8}$ C. $\frac{1}{3} + \frac{1}{6} + \frac{1}{6}$


D. $\frac{1}{2} > \frac{5}{10}$ E. $\frac{3}{9} = \frac{1}{3}$ F. $\frac{4}{5} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$

4. Explain your strategy for solving Question 3F.


5. Frank and Jerome each ordered a small cheese pizza for lunch. Frank's pizza was cut into 6 equal pieces. Jerome's pizza was cut into 8 equal pieces. Frank ate 2 pieces of his pizza. Jerome ate 3 pieces of his pizza. Which boy ate more pizza? How do you know?




6. Nila and Tanya shared a sandwich for lunch. Nila ate $\frac{2}{3}$ of the sandwich and Tanya ate $\frac{1}{3}$ of the sandwich. What fraction of the whole sandwich did the two girls eat? Explain how you found your answer.



7. Lee, Yah, Luis, John, and Shannon solved a fraction puzzle as shown on the right. If a red circle is one whole, write a number sentence for their solution.



8. Frank, Jacob, Irma, and Maya solved a fraction puzzle as shown below. Does their solution fit all the clues? If it does not fit all the clues, draw a shape that does work. Write a number sentence for a correct solution. Explain your thinking.



Clue 1: The pink piece is equal to 1 whole.
Clue 2: Make a shape with a value of $\frac{3}{2}$.
Clue 3: Use at least one yellow piece.
Clue 4: Do not use any pink pieces.

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Puzzle Problem

1. Show your group's solution to Puzzle D. Draw a picture and write a number sentence.

2. Write a paragraph explaining the strategies your group used. Use the back of the paper if you need more room.

	Yes...	No, but...
Students-Student Feedback Box MP.3. Check for reasonableness. I look back at my solution to see if my answer makes sense. If it does not, I try again. MP.6. Show my work. I show or tell how I arrived at my answer so someone else can understand my thinking.		

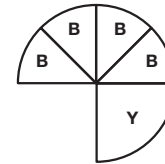
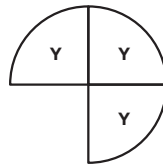
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*Answers and/or discussion are included in the lesson.

3. A. $\frac{6}{8} = \frac{3}{4}$
 B. $\frac{3}{5} > \frac{3}{8}$
 C. $\frac{1}{3} < \frac{3}{6}$
 D. $\frac{1}{2} = \frac{5}{10}$
 E. $\frac{3}{9} = \frac{1}{3}$
 F. $\frac{4}{5} > \frac{5}{12}$

4. Possible response: I looked at the fraction chart. The $\frac{4}{5}$ strip is longer than the $\frac{5}{12}$ strip.
5. Jerome ate $\frac{3}{8}$ of his pizza. Frank ate $\frac{2}{6}$ of his pizza. Jerome ate more pizza than Frank. Students may use their fraction charts to compare $\frac{2}{6}$ and $\frac{3}{8}$.
6. $\frac{3}{4}$ of the sandwich; strategies will vary.
7. $\frac{1}{2} + \frac{1}{6} + \frac{1}{3} = 1$
8. The solution does not match the clues. Their solution has a pink piece (“Clue 4: Do not use any pink pieces.”); Possible solutions:



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

$$\frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{4} + \frac{1}{2} = \frac{3}{2}$$

These are examples of shapes that cover 1 pink and a $\frac{1}{2}$ of a pink or 1 yellow.

Student Activity Book

Puzzle Problem (SAB p. 313)

Questions 1–2

- 1.* See Figure 5 in Lesson 12 for possible answers to Puzzle D.
- 2.* See Figure 8 for a possible complete explanation. A better explanation would include a more complete description of how Ana’s group checked their solution for reasonableness.

Teacher Guide

Fraction Puzzle Clues (TG pp. 1–2)

*See Figures 2–4 in Lesson 12 for answers to Puzzles A–C.