

Fraction Face-Off

Compare fraction sizes by using what stays the same.

GRADE 4 • 4.NR.4.2

4.NR.4.2 "Compare two fractions with the same numerator or the same denominator by reasoning about their size and recognize that comparisons are valid only when the two fractions refer to the same whole."

NAME _____

DATE _____

COMPARE FRACTION PARTS

When fractions have the same denominator, the fraction with the greater numerator is greater. When fractions have the same numerator, the fraction with the smaller denominator is greater. You can compare fractions only when they name parts of wholes that are the same size.

WORKED EXAMPLE

Compare $\frac{3}{8}$ and $\frac{3}{5}$.

1. Both fractions have the same numerator, 3.
2. With the same numerator, the smaller denominator makes larger parts.
3. Since 5 is smaller than 8, $\frac{3}{5}$ is greater than $\frac{3}{8}$.

Answer: $\frac{3}{8} < \frac{3}{5}$

PRACTICE 6 problems

1 Write $<$, $>$, or $=$. $\frac{2}{7}$ ____ $\frac{6}{7}$

ANSWER _____

2 Write $<$, $>$, or $=$. $\frac{1}{4}$ ____ $\frac{1}{9}$

ANSWER _____

3 Write $<$, $>$, or $=$. $\frac{4}{10}$ ____ $\frac{7}{10}$

ANSWER _____

4 Write $<$, $>$, or $=$. $\frac{6}{12}$ ____ $\frac{6}{7}$

ANSWER _____

5 Write $<$, $>$, or $=$. $\frac{2}{6}$ ____ $\frac{2}{4}$

ANSWER _____

6 Nora ate $\frac{1}{2}$ of one sandwich. Omar ate $\frac{1}{2}$ of a different sandwich. The sandwich sizes are not given. Can you tell who ate more? Write a sentence.

ANSWER _____

APPLY IT Show your work

- 1** At a game club, Riley and Devon use identical game boards. Riley colors $\frac{4}{9}$ of a board. Devon colors $\frac{7}{9}$ of a board. Who colors the greater part of a board?

WORK SPACE

ANSWER _____

- 2** Ava watches $\frac{1}{4}$ of a movie. Leo watches $\frac{1}{6}$ of the same movie. Who watches more of the movie?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Kai says, " $\frac{1}{2}$ is always greater than $\frac{1}{4}$." Is Kai correct? Explain when this comparison is valid.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Write $<$, $>$, or $=$. $2/7$ ____ $6/7$	$2/7 < 6/7$
2	Write $<$, $>$, or $=$. $1/4$ ____ $1/9$	$1/4 > 1/9$
3	Write $<$, $>$, or $=$. $4/10$ ____ $7/10$	$4/10 < 7/10$
4	Write $<$, $>$, or $=$. $6/12$ ____ $6/7$	$6/12 < 6/7$
5	Write $<$, $>$, or $=$. $2/6$ ____ $2/4$	$2/6 < 2/4$
6	Nora ate $1/2$ of one sandwich. Omar ate $1/2$ of a different sandwich. The sandwich sizes are not given. Can you tell who ate more? Write a sentence.	No. The sandwiches may be different-sized wholes, so $1/2$ does not tell which amount is greater.

PART 2 • APPLY IT

1. **Devon colors the greater part.** The boards are the same size, and both fractions have a denominator of 9. Since 7 is greater than 4, $7/9$ is greater than $4/9$.
2. **Ava watches more of the movie.** Both fractions name parts of the same movie and have a numerator of 1. Fourths are larger parts than sixths, so $1/4$ is greater than $1/6$.

CHALLENGE

Kai is correct only when both fractions refer to the same whole. For the same whole, $1/2 > 1/4$.

Accept $<$, $>$, or correctly written comparison statements for the fraction items. For explanations, accept clear reasoning that comparisons require wholes of the same size.