

Fraction Face-Off

Compare fractions with different numerators and denominators.

GRADE 4 • TEKS 4.3.D

4.3.D "compare two fractions with different numerators and different denominators and represent the comparison using the symbols $>$, $=$, or $<$,"

NAME _____

DATE _____

COMPARE BY CROSS MULTIPLYING

To compare two fractions, multiply each numerator by the other fraction's denominator. Compare the products. The fraction with the larger product is the larger fraction.

WORKED EXAMPLE

Compare $5/12$ and $7/15$. Write $>$, $<$, or $=$.

1. Multiply 5 by 15: $5 \times 15 = 75$.
2. Multiply 7 by 12: $7 \times 12 = 84$.
3. Since $75 < 84$, $5/12 < 7/15$.

Answer: $5/12 < 7/15$

PRACTICE 6 problems

- 1** 1. Compare $2/3$ and $4/9$. Write $>$, $<$, or $=$.

ANSWER _____

- 2** 2. Compare $6/8$ and $9/10$. Write $>$, $<$, or $=$.

ANSWER _____

- 3** 3. Compare $8/11$ and $3/4$. Write $>$, $<$, or $=$.

ANSWER _____

- 4** 4. Compare $1/6$ and $4/13$. Write $>$, $<$, or $=$.

ANSWER _____

- 5** 5. Compare $2/6$ and $3/9$. Write $>$, $<$, or $=$.

ANSWER _____

- 6** 6. Compare $10/13$ and $11/14$. Write $>$, $<$, or $=$.

ANSWER _____

APPLY IT Show your work

- 1** At art club, Nia colored $\frac{3}{4}$ of one same-size banner. Omar colored $\frac{8}{9}$ of another same-size banner. Compare the fractions of the banners they colored. Write $>$, $<$, or $=$.

WORK SPACE

ANSWER _____

- 2** Two players are filling progress bars in a game. Kai has filled $\frac{11}{13}$ of a bar, and Luna has filled $\frac{9}{10}$ of a same-size bar. Compare the fractions filled. Write $>$, $<$, or $=$.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Arrange $\frac{13}{14}$, $\frac{8}{9}$, and $\frac{10}{11}$ from least to greatest. Use $<$ symbols. Then explain how you compared the fractions.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	1. Compare $\frac{2}{3}$ and $\frac{4}{9}$. Write $>$, $<$, or $=$.	$\frac{2}{3} > \frac{4}{9}$
2	2. Compare $\frac{6}{8}$ and $\frac{9}{10}$. Write $>$, $<$, or $=$.	$\frac{6}{8} < \frac{9}{10}$
3	3. Compare $\frac{8}{11}$ and $\frac{3}{4}$. Write $>$, $<$, or $=$.	$\frac{8}{11} < \frac{3}{4}$
4	4. Compare $\frac{1}{6}$ and $\frac{4}{13}$. Write $>$, $<$, or $=$.	$\frac{1}{6} < \frac{4}{13}$
5	5. Compare $\frac{2}{6}$ and $\frac{3}{9}$. Write $>$, $<$, or $=$.	$\frac{2}{6} = \frac{3}{9}$
6	6. Compare $\frac{10}{13}$ and $\frac{11}{14}$. Write $>$, $<$, or $=$.	$\frac{10}{13} < \frac{11}{14}$

PART 2 • APPLY IT

1. **$\frac{3}{4} < \frac{8}{9}$** Cross multiply: $3 \times 9 = 27$ and $8 \times 4 = 32$. Since $27 < 32$, $\frac{3}{4} < \frac{8}{9}$.
2. **$\frac{11}{13} < \frac{9}{10}$** Cross multiply: $11 \times 10 = 110$ and $9 \times 13 = 117$. Since $110 < 117$, $\frac{11}{13} < \frac{9}{10}$.

CHALLENGE

$\frac{8}{9} < \frac{10}{11} < \frac{13}{14}$. For $\frac{8}{9}$ and $\frac{10}{11}$, $8 \times 11 = 88$ and $10 \times 9 = 90$, so $\frac{8}{9} < \frac{10}{11}$. For $\frac{10}{11}$ and $\frac{13}{14}$, $10 \times 14 = 140$ and $13 \times 11 = 143$, so $\frac{10}{11} < \frac{13}{14}$.

Accept each correct comparison symbol and valid equivalent-fraction or cross-multiplication work. For the challenge, accept any accurate explanation that supports the order.