Comparing Fractions with Same Numerator or Denominator

Explore ideas and representations

Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

Use equal-size wholes. With the same denominator, compare the counts: $\frac{4}{5} > \frac{1}{5}$. With the same numerator, compare piece sizes: $\frac{1}{5} > \frac{1}{8}$ because fifths are larger than eighths.

Worked example

Compare the shaded fractions in the two same-size strips. Write $<, =,$ or $>$.



1. Both wholes have 4 equal parts, so each piece has size $\frac{1}{4}$.

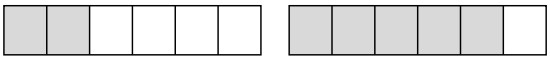
2. Compare the counts: $2 < 3$. Therefore $\frac{2}{4} < \frac{3}{4}$.

Answer: $\frac{2}{4} < \frac{3}{4}$.

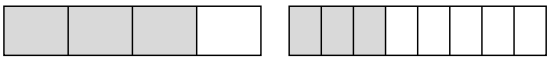
Practice Problems

Show your thinking.

1. Compare the shaded fractions in the two same-size strips. Write $<, =,$ or $>$.



2. Compare the shaded fractions in the two same-size strips. Write $<, =,$ or $>$.

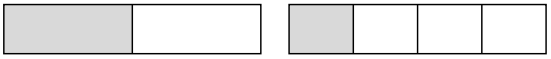


3. Compare $\frac{1}{3}$ and $\frac{2}{3}$ using $<, =,$ or $>$. Explain with piece sizes or counts.

4. Compare $\frac{2}{3}$ and $\frac{2}{6}$ using $<, =,$ or $>$. Explain with piece sizes or counts.

5. A student writes $\frac{5}{8} < \frac{3}{8}$. Correct the sign and explain.

6. Compare the shaded fractions in the two same-size strips. Write $<, =,$ or $>$.



Answer Key

1. $\frac{2}{6} < \frac{5}{6}$.
2. $\frac{3}{4} > \frac{3}{8}$.
3. $\frac{1}{3} < \frac{2}{3}$.
4. $\frac{2}{3} > \frac{2}{6}$.
5. $\frac{5}{8} > \frac{3}{8}$.
6. $\frac{1}{2} > \frac{1}{4}$.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Both wholes have 6 equal parts, so each piece has size $\frac{1}{6}$.
2. Compare the counts: $2 < 5$. Therefore $\frac{2}{6} < \frac{5}{6}$.

Problem 2

1. Both fractions count 3 pieces of same-size wholes. Parts of size $\frac{1}{4}$ are larger than parts of size $\frac{1}{8}$.
2. The same 3 pieces give more when each piece is larger, so $\frac{3}{4} > \frac{3}{8}$.

Problem 3

1. Both wholes have 3 equal parts, so each piece has size $\frac{1}{3}$.
2. Compare the counts: $1 < 2$. Therefore $\frac{1}{3} < \frac{2}{3}$.

Problem 4

1. Both fractions count 2 pieces of same-size wholes. Parts of size $\frac{1}{3}$ are larger than parts of size $\frac{1}{6}$.
2. The same 2 pieces give more when each piece is larger, so $\frac{2}{3} > \frac{2}{6}$.

Problem 5

1. Both wholes have 8 equal parts, so each piece has size $\frac{1}{8}$.
2. Compare the counts: $5 > 3$. Therefore $\frac{5}{8} > \frac{3}{8}$.

Problem 6

1. Both fractions count 1 pieces of same-size wholes. Parts of size $\frac{1}{2}$ are larger than parts of size $\frac{1}{4}$.
2. The same 1 pieces give more when each piece is larger, so $\frac{1}{2} > \frac{1}{4}$.

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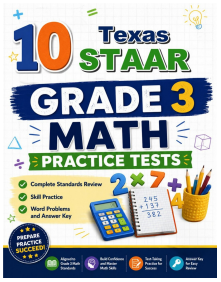

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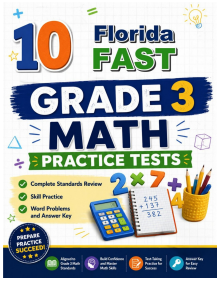

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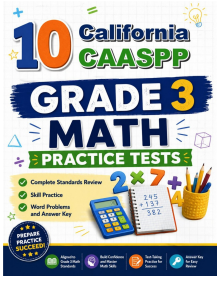

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