Comparing Fractions with Same Numerator or Denominator

Spot mistakes, reason, and work backward

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. A student writes $\frac{3}{8} > \frac{3}{4}$. Correct the sign and explain.

2. The numerator is fixed at 2. Use denominators 4 and 8 to put the smaller fraction first.

3. A student writes $\frac{5}{6} < \frac{1}{6}$. Correct the sign and explain.

4. The numerator is fixed at 1. Use denominators 3 and 6 to put the smaller fraction first.

5. Design a fraction with denominator 8 that is greater than $\frac{2}{8}$ but less than $\frac{6}{8}$. Show both comparisons.

6. A student writes $\frac{3}{6} < \frac{3}{8}$. Correct the sign and explain.

Answer Key

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

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

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 $\frac{3}{8} < \frac{3}{4}$.

Problem 2

1. Both fractions count 2 pieces of same-size wholes. Parts of size $\frac{1}{4}$ are larger than parts of size $\frac{1}{8}$.

2. The same 2 pieces give more when each piece is larger, so $\frac{2}{4} > \frac{2}{8}$.

Problem 3

1. Both wholes have 6 equal parts, so each piece has size $\frac{1}{6}$.

2. Compare the counts: $5 > 1$. Therefore $\frac{5}{6} > \frac{1}{6}$.

Problem 4

1. Both fractions count 1 pieces of same-size wholes. Parts of size $\frac{1}{3}$ are larger than parts of size $\frac{1}{6}$.

2. The same 1 pieces give more when each piece is larger, so $\frac{1}{3} > \frac{1}{6}$.

Problem 5

1. All pieces have size $\frac{1}{8}$. The new numerator must be greater than 2 and less than 6.

2. Choose 3 because $2 < 3 < 6$, giving $\frac{2}{8} < \frac{3}{8} < \frac{6}{8}$.

Problem 6

1. Both fractions count 3 pieces of same-size wholes. Parts of size $\frac{1}{6}$ are larger than parts of size $\frac{1}{8}$.

2. The same 3 pieces give more when each piece is larger, so $\frac{3}{6} > \frac{3}{8}$.

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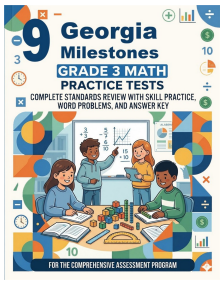

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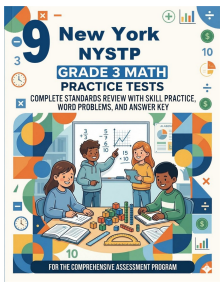

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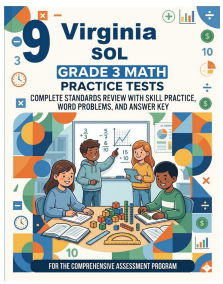

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