Equivalence of Fractions

Spot mistakes, reason, and work backward

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

QUICK REVIEW

Equivalent fractions name the same number. Split every fifth in two to see $\frac{1}{5} = \frac{2}{10}$. The amount shaded stays the same when the whole is the same size. On aligned number lines, equivalent fractions land at the same distance from 0.

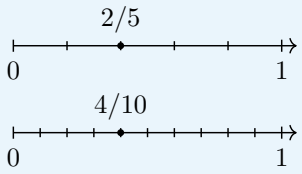
Worked example

Mark $\frac{2}{5}$ on the top line and $\frac{4}{10}$ on the bottom. Are they the same number?

1. 5-ths split into 2 equal smaller steps, making 10-ths.

2. The top endpoint after 2 steps matches the bottom endpoint after $2 \times 2 = 4$ steps.

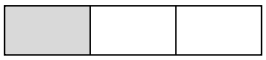
Answer: Yes; $\frac{2}{5} = \frac{4}{10}$.



Practice Problems

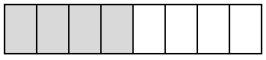
Show your thinking.

1. A student claims $\frac{1}{3} = \frac{3}{6}$. Use 6 equal parts to correct the numerator.



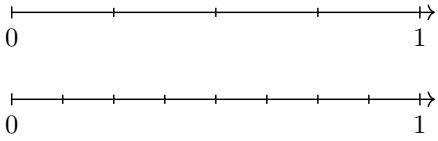
2. Fill the numerator: $\frac{2}{4} = \frac{\square}{8}$. Explain the piece counts.

3. The strip has 8 equal small pieces, with 4 shaded. Join every 4 neighboring pieces into one larger part. Name the shaded fraction before and after grouping.



4. $\frac{2}{3}$ of a 6-cm ribbon and $\frac{4}{6}$ of a 12-cm ribbon are cut off. Are the cut lengths equal?

5. Mark $\frac{1}{4}$ on the top line and $\frac{2}{8}$ on the bottom. Are they the same number?



6. Fill the numerator: $\frac{1}{2} = \frac{\square}{6}$. Explain the piece counts.

Answer Key

1. $\frac{1}{3} = \frac{2}{6}$, not $\frac{3}{6}$.
2. The numerator is 4.
3. $\frac{4}{8} = \frac{1}{2}$.
4. No; 4 cm and 8 cm.
5. Yes; $\frac{1}{4} = \frac{2}{8}$.
6. The numerator is 3.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Split each of 3 pieces into 2 parts; all $3 \times 2 = 6$ smaller parts cover the whole.

2. The shaded count must also multiply: $1 \times 2 = 2$, not 3.

Problem 2

1. $4 \times 2 = 8$, so each original piece has been split into 2 pieces.

2. The shaded count becomes $2 \times 2 = 4$, giving $\frac{4}{8}$.

Problem 3

1. Grouping gives $8 \div 4 = 2$ larger equal parts in the whole.

2. The 4 shaded pieces make $4 \div 4 = 1$ larger parts. The shaded length does not change, so $\frac{4}{8} = \frac{1}{2}$.

Problem 4

1. The first ribbon has 3 pieces of 2 cm; 2 pieces measure $2 \times 2 = 4$ cm.

2. The second has 6 pieces of 2 cm; 4 measure $4 \times 2 = 8$ cm. Equivalent fractions need equal wholes to give equal lengths.

Problem 5

1. 4-ths split into 2 equal smaller steps, making 8-ths.

2. The top endpoint after 1 steps matches the bottom endpoint after $1 \times 2 = 2$ steps.

Problem 6

1. $2 \times 3 = 6$, so each original piece has been split into 3 pieces.

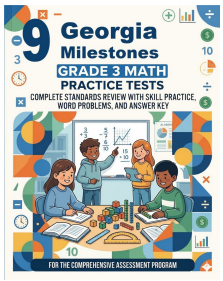
2. The shaded count becomes $1 \times 3 = 3$, giving $\frac{3}{6}$.

TESTINAR

Keep Building Grade 3 Math Skills

Choose the practice book matched to your state assessment and turn worksheet practice into a complete test-prep plan.

All Grade 3 books



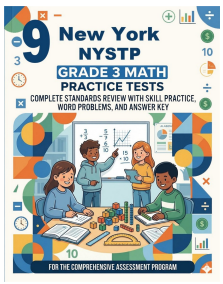
GEORGIA MILESTONES

9 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 9 printable practice tests.

Printable eBook • Instant PDF access

View eBook



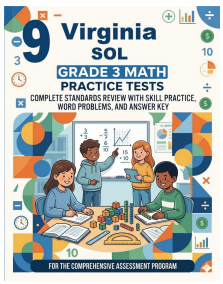
NEW YORK NYSTP

9 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 9 printable practice tests.

Printable eBook • Instant PDF access

View eBook



VIRGINIA SOL

9 Full-Length Math Practice Tests

Build Grade 3 accuracy, confidence, and test stamina with 9 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 3 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/3