Generating Simple Equivalent Fractions

Apply the skill to decisions and designs

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

QUICK REVIEW

To generate an equivalent fraction, split each part the same way. For example, $\frac{3}{5} = \frac{3\times2}{5\times2} = \frac{6}{10}$. Both counts change, but the shaded amount stays the same.

Worked example

A quilt design colors $\frac{2}{4}$ of one panel. Split every part into 3 equal pieces. Draw the new divisions and name the colored fraction.

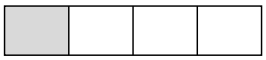


1. Add two dashed division marks inside each original part to make three equal smaller parts.
2. The whole now has $4 \times 3 = 12$ equal parts.
3. The colored part now has $2 \times 3 = 6$ small parts, so its new name is $\frac{6}{12}$.
Answer: $\frac{6}{12}$.

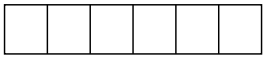
Practice Problems

Show your thinking.

1. A quilt design colors $\frac{1}{4}$ of one panel. Split every part into 2 equal pieces. Draw the new divisions and name the colored fraction.



2. One same-length ribbon is colored $\frac{1}{2}$ red. Another is cut into 6 equal pieces. How many pieces must be colored to match?

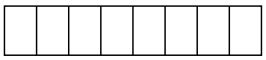


3. A quilt design colors $\frac{2}{3}$ of one panel. Split every part into 2 equal pieces. Draw the new divisions and name the colored fraction.



4. Complete $\frac{1}{2} = \frac{4}{\square}$. Find the missing denominator.

5. One same-length ribbon is colored $\frac{3}{4}$ red. Another is cut into 8 equal pieces. How many pieces must be colored to match?



6. Generate two fractions equal to $\frac{1}{3}$: use multipliers 2 and 3.

Answer Key

1. $\frac{2}{8}$.
2. 3 pieces; $\frac{3}{6}$ of the ribbon.
3. $\frac{4}{6}$.
4. 8.
5. 6 pieces; $\frac{6}{8}$ of the ribbon.
6. $\frac{2}{6}$ and $\frac{3}{9}$.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. The whole now has $4 \times 2 = 8$ equal parts.

2. The colored part now has $1 \times 2 = 2$ small parts, so its new name is $\frac{2}{8}$.

Problem 2

1. Each of the first 2 parts becomes 3 smaller pieces because $2 \times 3 = 6$.

2. Color $1 \times 3 = 3$ of the smaller pieces to match $\frac{1}{2}$.

Problem 3

1. The whole now has $3 \times 2 = 6$ equal parts.

2. The colored part now has $2 \times 2 = 4$ small parts, so its new name is $\frac{4}{6}$.

Problem 4

1. The numerator changes by a factor of 4 because $1 \times 4 = 4$.

2. Use the same multiplier below: $2 \times 4 = 8$, giving $\frac{4}{8}$.

Problem 5

1. Each of the first 4 parts becomes 2 smaller pieces because $4 \times 2 = 8$.

2. Color $3 \times 2 = 6$ of the smaller pieces to match $\frac{3}{4}$.

Problem 6

1. Multiply both counts by 2: $1 \times 2 = 2$ and $3 \times 2 = 6$.

2. Multiply both by 3: $1 \times 3 = 3$ and $3 \times 3 = 9$. Both pairs preserve the same portion.

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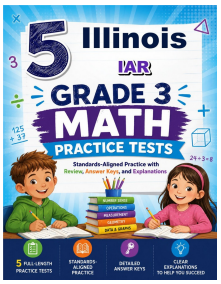

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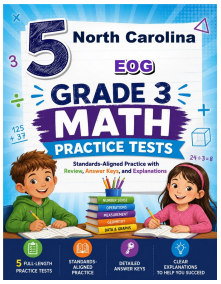

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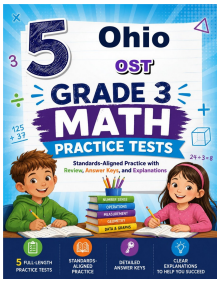

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