Equivalent Fractions as Same Size

Apply the skill to decisions and designs

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

QUICK REVIEW

Same size means the same amount of an equal-size whole, or the same number-line point. $\frac{1}{5}$ and $\frac{2}{10}$ cover the same length of equal strips. But half of a long ribbon need not equal half of a short ribbon. Check the whole first.

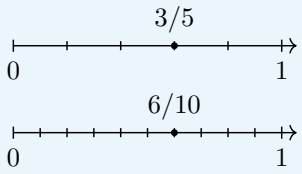
Worked example

Mark $\frac{3}{5}$ on the top line and $\frac{6}{10}$ 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 3 steps matches the bottom endpoint after $3 \times 2 = 6$ steps.

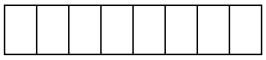
Answer: Yes; $\frac{3}{5} = \frac{6}{10}$.



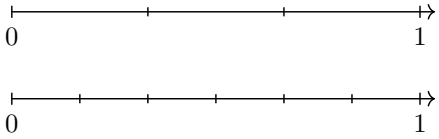
Practice Problems

Show your thinking.

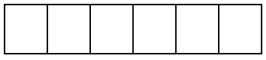
1. One same-length ribbon is colored $\frac{1}{4}$ red. Another is cut into 8 equal pieces. How many pieces must be colored to match?



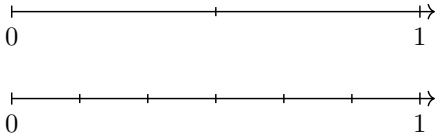
2. Two hikers walk $\frac{1}{3}$ km and $\frac{2}{6}$ km. Do they finish at the same place if they start together along one straight path? Show on the lines.



3. One same-length ribbon is colored $\frac{2}{3}$ red. Another is cut into 6 equal pieces. How many pieces must be colored to match?



4. Two hikers walk $\frac{1}{2}$ km and $\frac{3}{6}$ km. Do they finish at the same place if they start together along one straight path? Show on the lines.



5. $\frac{3}{4}$ of a 8-cm ribbon and $\frac{6}{8}$ of a 16-cm ribbon are cut off. Are the cut lengths equal?

6. Fill the numerator: $\frac{1}{2} = \frac{\square}{8}$. Explain the piece counts.

Answer Key

1. 2 pieces; $\frac{2}{8}$ of the ribbon.
2. Yes; both walk $\frac{1}{3}$ km.
3. 4 pieces; $\frac{4}{6}$ of the ribbon.
4. Yes; both walk $\frac{1}{2}$ km.
5. No; 6 cm and 12 cm.
6. The numerator is 4.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

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

2. Color $1 \times 2 = 2$ of the smaller pieces to match $\frac{1}{4}$.

Problem 2

1. 3 equal steps per kilometer become 6 steps when each is split into 2.

2. 1 large steps and 2 small steps reach the same point because $1 \times 2 = 2$.

Problem 3

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

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

Problem 4

1. 2 equal steps per kilometer become 6 steps when each is split into 3.

2. 1 large steps and 3 small steps reach the same point because $1 \times 3 = 3$.

Problem 5

1. The first ribbon has 4 pieces of 2 cm; 3 pieces measure $3 \times 2 = 6$ cm.

2. The second has 8 pieces of 2 cm; 6 measure $6 \times 2 = 12$ cm. Equivalent fractions need equal wholes to give equal lengths.

Problem 6

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

2. The shaded count becomes $1 \times 4 = 4$, giving $\frac{4}{8}$.

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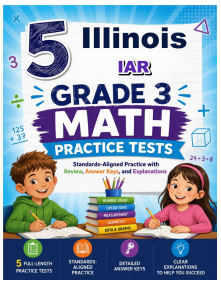

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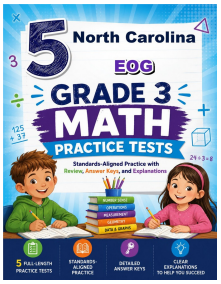

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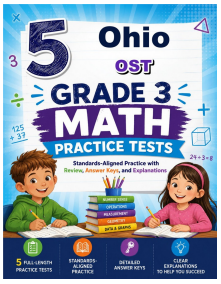

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