Unit Fractions

Spot mistakes, reason, and work backward

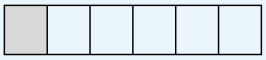
Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

A unit fraction has numerator 1. Divide one whole into equal parts; the denominator counts all those parts. If a strip has 4 equal pieces, one piece is $\frac{1}{4}$, and 4 such pieces rebuild the whole. Unequal pieces cannot all have the same unit-fraction name.

Worked example

Name the shaded part of this whole as a unit fraction.



1. The whole is divided into 6 equal parts.

2. Exactly 1 part is shaded, so the shaded amount is $\frac{1}{6}$ of the whole.

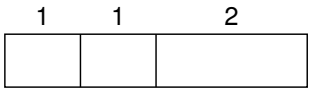
Answer: $\frac{1}{6}$.

Practice Problems

Show your thinking.

1. Ada shades 2 of 8 equal pieces and calls it $\frac{1}{8}$. How many pieces should she unshade? Explain.

2. This whole has three pieces of widths 1, 1, and 2 units. Can each piece be called $\frac{1}{3}$? Explain.



3. One equal piece is $\frac{1}{6}$ of a whole. How many such pieces rebuild the whole? Draw a matching strip.

4. Make a paper strip for 4 equal shares. Draw the cuts and shade one share. Label its fraction.

5. Two same-size ribbons are cut into 2 equal pieces and 4 equal pieces. Which gives a larger single piece?

6. A 2-cm piece is $\frac{1}{3}$ of a ribbon. Find the length of the whole ribbon and explain how many matching pieces you need.

Answer Key

1. Unshade 1 piece.
2. No; the pieces are not equal.
3. 6 pieces.
4. 4 equal pieces; one share is $\frac{1}{4}$.
5. $\frac{1}{2}$ is larger than $\frac{1}{4}$.
6. 6 cm; 3 matching pieces.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Two shaded pieces represent $\frac{2}{8}$, which has numerator 2, not 1.

2. Unshade $2 - 1 = 1$ piece; the remaining one piece is $\frac{1}{8}$.

Problem 2

1. The whole is $1 + 1 + 2 = 4$ width units. A small piece is $\frac{1}{4}$ of the whole.

2. The wide piece is $\frac{2}{4} = \frac{1}{2}$ of the whole, twice a small piece. Three unequal pieces do not make thirds.

Problem 3

1. The fraction $\frac{1}{6}$ means 1 out of 6 equal pieces.

2. Collecting 6 pieces gives $\frac{6}{6} = 1$ whole.

Problem 4

1. 4 shares need 3 interior cuts in a straight strip.

2. Each share is 1 of the 4 equal parts, so label the shaded piece $\frac{1}{4}$.

Problem 5

1. The first ribbon has 2 pieces; the second has 4 pieces in the same length.

2. More equal pieces must be smaller, so one of 2 pieces is larger than one of 4.

Problem 6

1. One $\frac{1}{3}$ piece means the whole contains 3 equal pieces.

2. Each piece is 2 cm, so the whole length is $3 \times 2 = 6$ cm.

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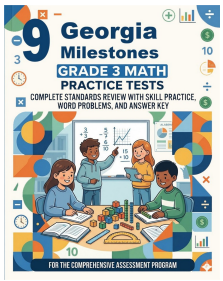

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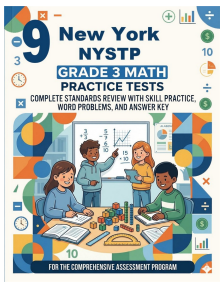

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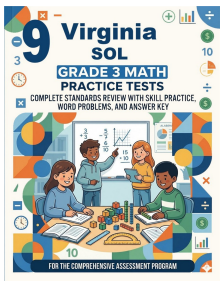

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