Ratios with Scale Drawings

Ratios with scale drawings: Mistakes and missing information

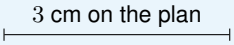
Name _____ **Date** _____ **Score** _____ / 6

QUICK REVIEW

A scale is a ratio of drawing length to actual length. At 1 cm : 4 m, a 3-cm segment represents $3 \times 4 = 12$ m. Reverse by dividing: 20 m requires $20/4 = 5$ cm. For area, convert both side lengths before multiplying.

Worked example

At 1 cm : 5 m, what actual length does 3 cm represent?



1. Each drawing centimeter represents 5 m; $3 \times 5 = 15$ m.

2. Reverse check: $15 \div 5 = 3$ cm.

Answer: 15 m.

Practice Problems

Show your thinking.

1. A student divides 5 by 4 for a 5-cm line at 1 cm : 4 m. Correct actual length.

2. A 24-m distance has a missing drawing length. Scale 1 cm : 8 m.

3. A student says 6 cm represents 9 m at 1 cm : 3 m by adding. Correct it.

4. Find the plan length for 35 m when 1 cm represents 5 m.

5. A 2-cm by 5-cm plan uses 1 cm : 3 m. A student multiplies area 10 by 3. Correct actual area.

6. Explain why actual 28 m must be divided, not multiplied, to draw a fence at 1 cm : 7 m. Find drawing length.

Answer Key

1. 20 m.
2. 3 cm.
3. 18 m.
4. 7 cm.
5. 90 m^2.
6. 4 cm.

Step-by-Step Solutions

Follow each calculation, then check your own work.

Problem 1

1. Each drawing centimeter represents 4 m; $5 \times 4 = 20$ m.
2. Reverse check: $20 \div 4 = 5$ cm.

Problem 2

1. Each drawing centimeter represents 8 m, so drawing length $= 24 \div 8 = 3$ cm.
2. Check the actual length: $3 \times 8 = 24$ m.

Problem 3

1. Each drawing centimeter represents 3 m; $6 \times 3 = 18$ m.
2. Reverse check: $18 \div 3 = 6$ cm.

Problem 4

1. Each drawing centimeter represents 5 m, so drawing length $= 35 \div 5 = 7$ cm.
2. Check the actual length: $7 \times 5 = 35$ m.

Problem 5

1. Actual sides are $2 \times 3 = 6$ m and $5 \times 3 = 15$ m.
2. Area $= 6 \times 15 = 90$ m^2; area scale factor is $3^2 = 9$, so $10 \times 9 = 90$.

Problem 6

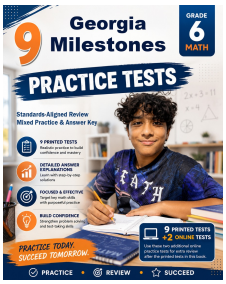
1. Each drawing centimeter represents 7 m, so drawing length $= 28 \div 7 = 4$ cm.
2. Check the actual length: $4 \times 7 = 28$ m.

TESTINAR

Keep Building Grade 6 Math Skills

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

All Grade 6 books



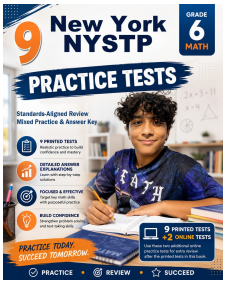
GEORGIA MILESTONES

9 Full-Length Math Practice Tests

Build Grade 6 accuracy, confidence, and test stamina with 9 printable practice tests.

Printable eBook • Instant PDF access

View eBook



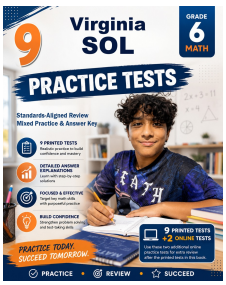
NEW YORK NYSTP

9 Full-Length Math Practice Tests

Build Grade 6 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 6 accuracy, confidence, and test stamina with 9 printable practice tests.

Printable eBook • Instant PDF access

View eBook

Need a different state?
Testinar has Grade 6 math practice books for state assessments across the country.

TESTINAR.COM/GRADES/6