

# Similar Figures

7th Grade

Same shape, different size — and the ratio that connects them.

**Similar figures have equal corresponding angles and proportional corresponding sides. The scale factor is the ratio between them.**

**scale factor = new ÷ original**

**Sides 3,4,5 → 6,8,10**

Every side doubled.

**scale factor 2**

**Find a missing side**

$3/6 = 4/x \rightarrow x = 8.$

**set up a proportion**

**Perimeter**

Lengths scale directly.

**× scale factor**

**Area**

Double the sides, quadruple the area.

**× scale factor<sup>2</sup>**

## THE COMMON MISTAKE

× double the sides, double the area

✓ double the sides, quadruple the area

Area involves two dimensions, so the scale factor is applied twice.

**Congruent means identical. Similar means the same shape at a different size.**