PEP Grade 9 Math — Unit 27: Similarity • Unit Test (Basic)

PEP · Grade 9 · Term 2 · Mathematics · Unit Test · Basic

AI-generated practice paper · original study aid, not an official examination paper · 40 questions · 100 points

Name: _____ Date: _____ Score: _____

Answer all questions. This paper is worth 100 points. Show your working where appropriate.

I. Multiple Choice

1. Which of the following statements is true about similar figures?
   A. They have the same shape but not necessarily the same size.
   B. They have equal areas and equal perimeters.
   C. They must be congruent to each other.
   D. Their corresponding angles are supplementary.

2. If two triangles are similar, what can be said about their corresponding sides?
   A. They are always perpendicular.
   B. They are in proportion.
   C. They are equal in length.
   D. They form right angles.

3. Triangle ABC ~ Triangle DEF. If AB = 6 cm and DE = 3 cm, what is the ratio of corresponding sides of triangle ABC to triangle DEF?
   A. 1:2
   B. 2:1
   C. 3:1
   D. 1:3

4. Two rectangles are similar. One has sides 4 cm and 8 cm. The other has width 6 cm. What is its length?
   A. 10 cm
   B. 12 cm
   C. 14 cm
   D. 16 cm

5. In two similar triangles, if one angle measures 50°, what is the measure of the corresponding angle in the other triangle?
   A. 40°
   B. 50°
   C. 60°
   D. 90°

6. If the scale factor between two similar polygons is 1/3, how does the area of the second polygon compare to the first?
   A. It is 1/3 the size.
   B. It is 1/6 the size.
   C. It is 1/9 the size.
   D. It is 3 times larger.

7. Which condition guarantees that two triangles are similar?
   A. Two sides are equal.
   B. One angle is equal.
   C. All three angles are equal.
   D. Two sides are proportional.

8. A photo is enlarged so that its length becomes 1.5 times the original. What is the scale factor of enlargement?
   A. 0.5
   B. 1.0
   C. 1.5
   D. 2.0

9. In similar triangles, if the ratio of their perimeters is 4:1, what is the ratio of their areas?