

Unit 8: Properties of Two-dimensional Shapes

ADVANCED

Name: _____ Date: _____

Show all your reasoning and write each final answer on the line provided. Use exact values.

1. A triangle has two angles measuring 47° and 68° . Find the measure of the third angle, in degrees.

Answer: _____

3. In a quadrilateral, three of the interior angles measure 85° , 97° , and 138° . Find the measure of the fourth angle, in degrees. (The angles of any quadrilateral add to 360° .)

Answer: _____

5. A regular octagon (8 equal sides) has a perimeter of 136 cm. What is the length of one side, in cm?

Answer: _____

7. A square has exactly this many lines of symmetry. How many lines of symmetry does a square have?

Answer: _____

9. A triangle has angles measuring $3n^\circ$, $4n^\circ$, and $5n^\circ$ for some number n . Since the angles add to 180° , find the measure of the largest angle, in degrees.

Answer: _____

11. A parallelogram has one angle measuring 118° . Adjacent angles in a parallelogram add to 180° . What is the measure of an angle next to it, in degrees?

Answer: _____

2. An isosceles triangle has one angle (the vertex angle) measuring 116° . The other two angles are equal. What is the measure of each base angle, in degrees?

Answer: _____

4. A right triangle has one angle of 90° and another angle of 27° . Find the measure of the remaining angle, in degrees.

Answer: _____

6. A rhombus has all four sides equal. If its perimeter is 92 mm, how long is one side, in mm?

Answer: _____

8. How many lines of symmetry does a regular hexagon (6 equal sides) have?

Answer: _____

10. An isosceles trapezoid has one line of symmetry. A scalene triangle has how many lines of symmetry? Give the number.

Answer: _____

12. A triangle has two sides of length 14 cm and 14 cm and a third side of 9 cm. What is its perimeter, in cm?

Answer: _____