

Unit 8: Properties of Two-dimensional Shapes

ADVANCED • SET 2

Name: _____ Date: _____

Solve each problem using triangle and quadrilateral classification rules and symmetry facts. Write your short exact answer on the line.

1. A triangle has two angles measuring 37° and 53° . Find the third angle, then state whether the triangle is acute, right, or obtuse. Give your answer as 'angle, type' (e.g., '90, right').

Answer: _____

3. An isosceles triangle has one angle of 96° . The other two angles are equal. What is the measure of each of the two equal angles, in degrees?

Answer: _____

5. A quadrilateral has three angles measuring 88° , 115° , and 74° . What is the measure of the fourth angle, in degrees?

Answer: _____

7. A regular octagon (8 equal sides) has how many lines of symmetry?

Answer: _____

9. A rhombus has a perimeter of 52 cm. What is the length of one side, in cm?

Answer: _____

2. A triangle has angles of 25° and 40° . What is the measure of the third angle in degrees?

Answer: _____

4. In an isosceles triangle, one of the two equal base angles measures 68° . What is the measure of the vertex (top) angle, in degrees?

Answer: _____

6. A parallelogram has one angle of 113° . What is the measure of the angle directly next to it (a consecutive angle), in degrees?

Answer: _____

8. How many lines of symmetry does a rectangle that is NOT a square have?

Answer: _____

10. How many lines of symmetry does a scalene triangle have?

Answer: _____

11. A triangle has sides 7 cm, 7 cm, and 10 cm, and its largest angle is 92° . Classify it by BOTH sides and angles. Give your answer as 'sides, angles' (e.g., 'scalene, acute').

Answer: _____

12. A regular polygon has each interior angle equal to 108° . Using the fact that the interior angles of a polygon with n sides sum to $(n-2) \times 180^\circ$, how many sides does it have?

Answer: _____