Practice Problems for Geometry
from www.topmath.info

1 What is the name for a polygon with 7 sides?

2 (T/F): No decagon is a polygon.

3 (T/F): If lines A and B are parallel, and B is perpendicular to line C, then A is perpendicular to line C.

4 How many degrees are in a quarter of a circle?

5 Two angles, measuring 4u degrees and 3u degrees, form a straight angle. What is u?

6 One angle of a right triangle measures 44 degrees. How many degrees is its smallest angle?

7 (T/F): Some, but not all scalene triangles are isosceles triangles.

8 (T/F): No isosceles triangle is a right triangle.

9 (T/F): No right triangle is an acute triangle.

10 A rectangle is 11 cm longer than it is wide. If its width is 4 cm, what is its perimeter?

11 (T/F): A parallelogram may contain four right angles.

12 A pie has an area of 36pi. If you slice the pie into 2 equal slices, what is the perimeter of one slice?

13 Equilateral pentagon CDEFG is inscribed in a circle of radius r. What is the length of arc DE?

14 (T/F): All parallelograms have exactly two lines of symmetry.

15 Taking pi as 3.14, what is the volume of a cylinder with a base diameter of 6 cm and a height of 5 cm? Express your answer to the nearest cubic cm.

1 ANSWER: heptagon

2 ANSWER: False

3 ANSWER: True

4 ANSWER: 90

5 ANSWER: 25 5/7. EXPLANATION: A straight angle measures 180°. Since the total of the two angles is 7u, you can divide 180° by 7 to solve for u.

6 ANSWER: 44

7 ANSWER: False

8 ANSWER: False. EXPLANATION: An isosceles triangle can be a right triangle if the two sides that are the same length meet at a 90 degree angle.

9 ANSWER: True. EXPLANATION: In an acute triangle, each angle must be less than 90 degrees. A right triangle has a 90 degree (right) angle.

10 ANSWER: 38 cm. EXPLANATION: We know that the width (4 cm) is 11 cm shorter than the length, which must be 15 cm. Since the perimeter of a rectangle is twice its length plus its width, we add these two numbers together and multiply by 2 to get the answer.

11 ANSWER: True

12 ANSWER: 12 + 6pi. EXPLANATION: The area of any circle is pi times the square of the radius, so the radius (r) of this particular circle is 6. Since each slice contains two radii as edges, the perimeter must be at least 12. The circumference of the circle, given by the formula 2pi(r), is 12pi, and the curved edge of the slice contains 1/2 of this value.

13 ANSWER: 2(pi)r/5. EXPLANATION: The total circumference is 2(pi)r. Because the inscribed shape is an equilateral pentagon, arc DE is one fifth of that circumference.

14 ANSWER: False

15 ANSWER: 141 cubic cm. EXPLANATION: The volume of a cylinder is pi × r^2 ×h. Plug in 3.14 for pi, 3 for r (half the diameter), and 5 for h to get the answer.