Practice Problems for Geometry
from www.topmath.info

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

2 One angle of a right triangle measures 35 degrees. How many degrees is its smallest angle?

3 (T/F): Some, but not all right triangles are equilateral triangles.

4 (T/F): No isosceles triangle is a scalene triangle.

5 (T/F): Some, but not all right triangles are obtuse triangles.

6 A rectangle is 3 feet longer than it is wide. If its length is 9 feet, what is its perimeter?

7 (T/F): A parallelogram may contain exactly two right angles.

8 A track is a circle of radius D. What is the total distance covered by a person who goes 7 times around the track?

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

10 (T/F): All quadrilaterals have at least two lines of symmetry.

11 Taking pi as 3.14, what is the volume of a cylinder with a base diameter of 5 feet and a height of 4 feet? Express your answer to the nearest cubic foot.

12 A 1-centimeter diameter sphere has a mass of 2 grams. What would be the mass in grams of a 3-centimeter diameter sphere of the same material?

13 (T/F): Every polygon is an octagon.

14 (T/F): Two line segments in the same plane that do not intersect must be perpendicular to one another.

15 (T/F): A ray has exactly one endpoint.

1 ANSWER: 22 1/2. EXPLANATION: A straight angle measures 180°. Since the total of the two angles is 8u, you can divide 180° by 8 to solve for u.

2 ANSWER: 35

3 ANSWER: False

4 ANSWER: True. EXPLANATION: An isosceles triangle has two sides that are the same length. In a scalene triangle, no two sides are the same length.

5 ANSWER: False. EXPLANATION: In an obtuse triangle, one angle must be more than 90 degrees. A right triangle has one 90 degree (right) angle, and the other two angles add up to 90 degrees.

6 ANSWER: 30 feet. EXPLANATION: We know that the length (9 feet) is 3 feet longer than the width, which must be 6 feet. 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.

7 ANSWER: False

8 ANSWER: 7(pi)D. EXPLANATION: One lap around the track (the circumference) is (pi)D. Multiply this by 7 to obtain the total distance.

9 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.

10 ANSWER: False

11 ANSWER: 79 cubic feet. EXPLANATION: The volume of a cylinder is pi × r^2 ×h. Plug in 3.14 for pi, 2.5 for r (half the diameter), and 4 for h to get the answer.

12 ANSWER: 54

13 ANSWER: False

14 ANSWER: False

15 ANSWER: True