

Practice Problems for Geometry
from www.topmath.info

1 (T/F): All isosceles triangles are equilateral triangles.

2 (T/F): No right triangle is an equilateral triangle.

3 One side of a right triangle measures 11 inches and the hypotenuse is 61 inches long.
What is the area of the triangle?

4 A rectangle is 3 feet longer than it is wide. If its width is 9 feet, what is its area?

5 (T/F): All trapezoids are squares.

Practice Problems for Geometry
from www.topmath.info

6 A track is a circle of radius R . What is the total distance covered by a person who goes 6 times around the track?

7 Square BCDE is inscribed in a circle of radius r . What is the length of arc CD?

8 (T/F): An equilateral triangle has exactly one line of symmetry.

9 Taking π as 3.14, what is the volume of a cylinder with a base radius of 3 inches and a height of 5 inches? Express your answer to the nearest cubic inch.

10 A 1-inch diameter sphere weighs 18 ounces. How many ounces would a 5-inch diameter sphere of the same material weigh?

Practice Problems for Geometry
from www.topmath.info

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

12 (T/F): No quadrilateral is a polygon.

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

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

15 Two angles, measuring $5p$ degrees and $4p$ degrees, form a straight angle. What is p ?

Practice Problems for Geometry
from www.topmath.info

1 ANSWER: False

2 ANSWER: True. EXPLANATION: A right triangle must have a 90 degree (right) angle. In an equilateral triangle, each angle must be 60 degrees, because the total of the angles in any triangle is 180 degrees.

3 ANSWER: 330 square inches. EXPLANATION: By the Pythagorean Theorem, the length of the second side is the square root of $(61^2 - 11^2)$. The expression in parentheses simplifies to $(3721 - 121)$, or 3600. The square root of this number is 60. The area is half of the product of the smaller two sides. In this case, half of 11 inches times 60 inches equals 330 square inches.

4 ANSWER: 108 square feet. EXPLANATION: We know that the width (9 feet) is 3 feet shorter than the length, which must be 12 feet. Since the area of a rectangle is its length times its width, we multiply these two numbers together to get the answer.

5 ANSWER: False

Practice Problems for Geometry
from www.topmath.info

6 ANSWER: $12(\pi)R$. EXPLANATION: One lap around the track (the circumference) is $2(\pi)R$. Multiply this by 6 to obtain the total distance.

7 ANSWER: $(\pi)r/2$. EXPLANATION: The total circumference is $2(\pi)r$. Because the inscribed shape is a square, arc CD is one quarter of that circumference.

8 ANSWER: False

9 ANSWER: 141 cubic inches. EXPLANATION: The volume of a cylinder is $\pi \times r^2 \times h$. Plug in 3.14 for π , 3 for r , and 5 for h to get the answer.

10 ANSWER: 2250

Practice Problems for Geometry
from www.topmath.info

11 ANSWER: heptagon

12 ANSWER: False

13 ANSWER: True

14 ANSWER: 90

15 ANSWER: 20. EXPLANATION: A straight angle measures 180° . Since the total of the two angles is $9p$, you can divide 180° by 9 to solve for p .