

Ottocento Lesson #7 Special Right Triangles Worksheet

Video Solutions at: <https://youtu.be/8GwCs-kxK5c>

Question 1

Triangle ABC is a 30-60-90 triangle. Angle B is a right angle. The measure of Angle A is 30° . The length of side AC is 24 inches. What is the length of side BC, in inches? What is the perimeter of the triangle, in inches? (Use exact numbers in your answer)

Question 2

Triangle ABC is an isosceles right triangle. Angle B is a right angle. The length of one leg is $9\sqrt{2}$ inches. What is the length of the hypotenuse, in inches? What is the area of the triangle, in square inches? (Use exact numbers in your answer)

Question 3

Triangle ABC is an isosceles right triangle. Angle B is a right angle. The length of the hypotenuse is $41\sqrt{2}$ inches. What is the perimeter of the triangle, in inches? (Use exact numbers in your answer)

Question 4

Triangle ABC is a right triangle where angle B is a right angle. The measure of Angle C is 30° . Side BC has a length of 57 inches. What is the perimeter of the triangle, in inches? (Use exact numbers in your answer)



Question 5

An isosceles right triangle has a perimeter of $98 + 98\sqrt{2}$ inches. What is the length, in inches, of one leg of this triangle? (Use exact numbers in your answer)

Question 6

A 30-60-90 triangle has a perimeter of $15 + 15\sqrt{3}$ inches. What is the length, in inches, of the longer leg of this triangle? (Use exact numbers in your answer)

Question 7

A 30-60-90 triangle has an area of $8\sqrt{3}$ square inches. What is the perimeter of the triangle, in inches? (Use exact numbers in your answer)

Question 8

An equilateral triangle has an altitude of $11\sqrt{3}$ inches. What is the perimeter of the triangle, in inches? (Use exact numbers in your answer)



Question 9

A square with a perimeter of 24 inches is inscribed in a circle. What is the area of the circle, in square inches? (Use exact numbers in your answer)

Question 10

In the figure below, line segment TE is tangent to the circle at point T . The circle has a center at point C . The measure of angle CET is 30° as shown. The length of line segment TE is 48 centimeters. What is the area of the region that is both inside the triangle and outside the circle, in square centimeters? (Use exact numbers in your answer)

