

Suppose a regular quadrilateral and a regular triangle have the same perimeter. The sides of the triangle are 3 inches longer than the sides of the quadrilateral. find the lengths of the sides of the quadrilateral and the triangle.

Solution:

Let:

a – side of regular quadrilateral

b – side of regular triangle

Write a system of equations:

$$\begin{cases} 4a = 3b \\ b = a + 3 \end{cases}$$

Solve the system, solutions:

$$\begin{cases} a = 9 \\ b = 12 \end{cases}$$

Answer: the side of quadrilateral is 9 inches, the side of triangle is 12 inches.