Worked Examples - Converse of the Pythagorean Theorem (IXL Geometry P.3)

1. A triangle has sides with lengths of 12 miles, 16 miles, and 20 miles. Is it a right triangle?

Yes, it is a right triangle.

$a^2 + b^2 = c^2$

$12^2 + 16^2 \stackrel{?}{=} 20^2$

$144 + 256 \stackrel{?}{=} 400$

$400 = 400$ True

2. A triangle has sides with lengths of 20 meters, 48 meters, and 55 meters. Is it a right triangle?

$a^2 + b^2 = c^2$

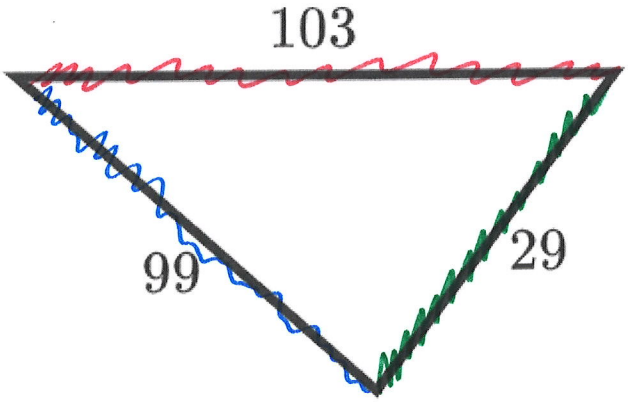
No, this is not a right triangle.

$48^2 + 20^2 \stackrel{?}{=} 55^2$

$2304 + 400 \stackrel{?}{=} 3025$

$2704 = 3025$ FALSE

3. Is the below triangle a right triangle?



$29^2 + 99^2 \stackrel{?}{=} 103^2$

$841 + 9801 \stackrel{?}{=} 10,609$

$10,642 = 10,609$ FALSE

No, this is not a right △