# Problem of the Week
Problem C
Climbing Up and Down

An obstacle course is created as follows. Two posts, the first being 4 m high and the second being 7.5 m high, are placed 12 m apart. A rope ladder starts on the ground, 3 m from the base of the first post, and finishes at the top of the first post. A second rope ladder connects the tops of the two posts. A third rope ladder starts at the top of the second post and finishes on the ground 4 m from the base of the second post. An illustration of the obstacle course is provided below.
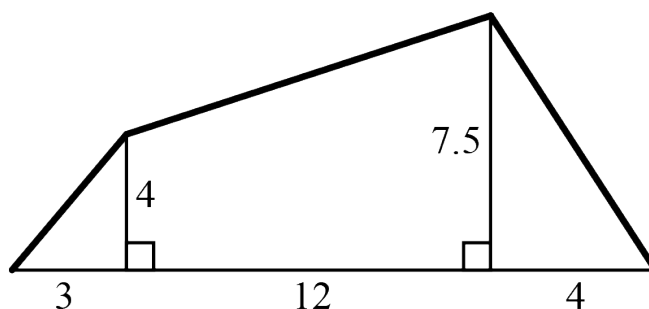
To complete the obstacle course, Jesse has to climb along the three rope ladders. If each of the three rope ladders forms a straight line, then determine the total distance Jesse must travel on the rope ladders.

NOTE: You may find the following useful:

The *Pythagorean Theorem* states, "In a right-angled triangle, the square of the length of hypotenuse (the side opposite the right angle) equals the sum of the squares of the lengths of the other two sides."

In the right-angled triangle shown, c is the hypotenuse, a and b are the lengths of the other two sides, and $c^2 = a^2 + b^2$.

THEME   GEOMETRY & MEASUREMENT