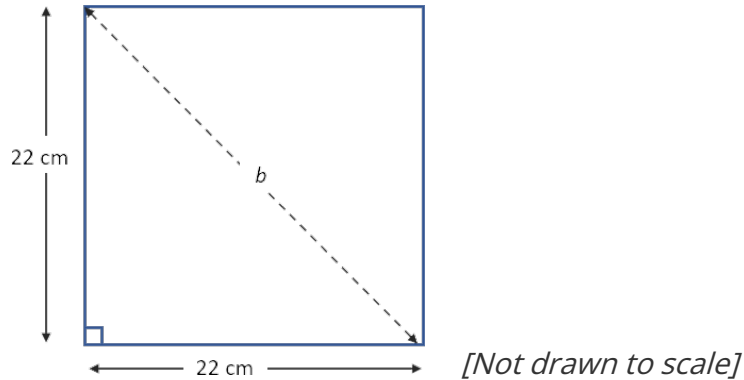# Pythagoras' theorem

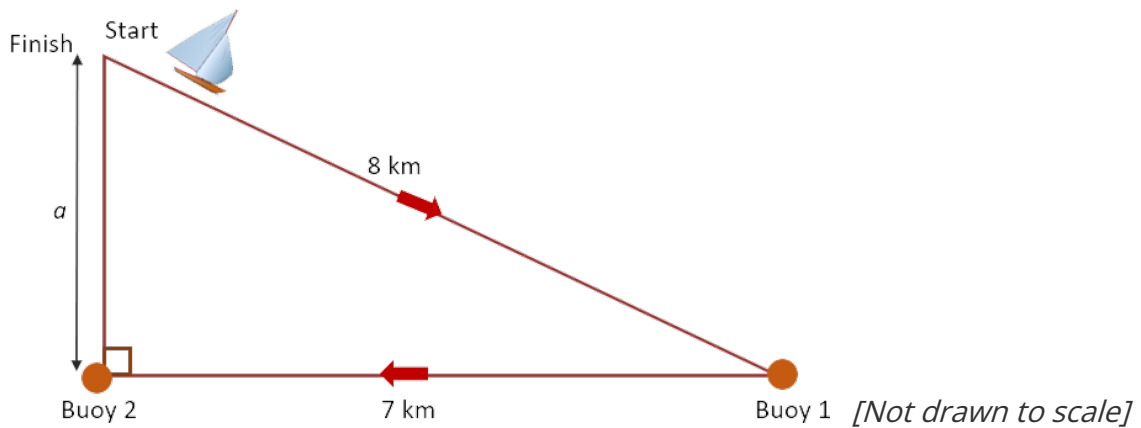**This task is about using pythagoras' theorem to solve problems with right-angled triangles.**

a) A square piece of paper has sides of 22 cm.

22 cm

22 cm

b

[Not drawn to scale]

How long would the diagonal line between the two corners be, shown by '*b*'? [____] cm

b) In a yacht race it is 8 km from the start line to Buoy 1, and 7 km from Buoy 1 to Buoy 2.

Finish Start

8 km

a

Buoy 2   7 km   Buoy 1 *[Not drawn to scale]*

How far would it be from Buoy 2 to the finish line, as shown by '*a*'? [____]

c) The diagonal line on the flag of Papua New Guinea is 90 cm. The flag is 54 cm in height.

54 cm

c

[Not drawn to scale]

How wide would the flag be, as shown by '*c*'? [____] cm