**Leading to Excellence.**

 **3D view**

 A

 B

 🚺

 O P ***x***

The diagram represents a cross-sectional view of a Hay Barn made of corrugated iron.

The radius of the Hay Barn is 10 metres.

There is a flagpole at the end of the building whose height is not known and the girl at P is holding the rope AB tight.

The rope is just touching the roof and the girl calculates that the gradient of the rope is – 1 .

**AB is obviously a TANGENT to the semi-circular roof.**

**Find the height of the flagpole.**