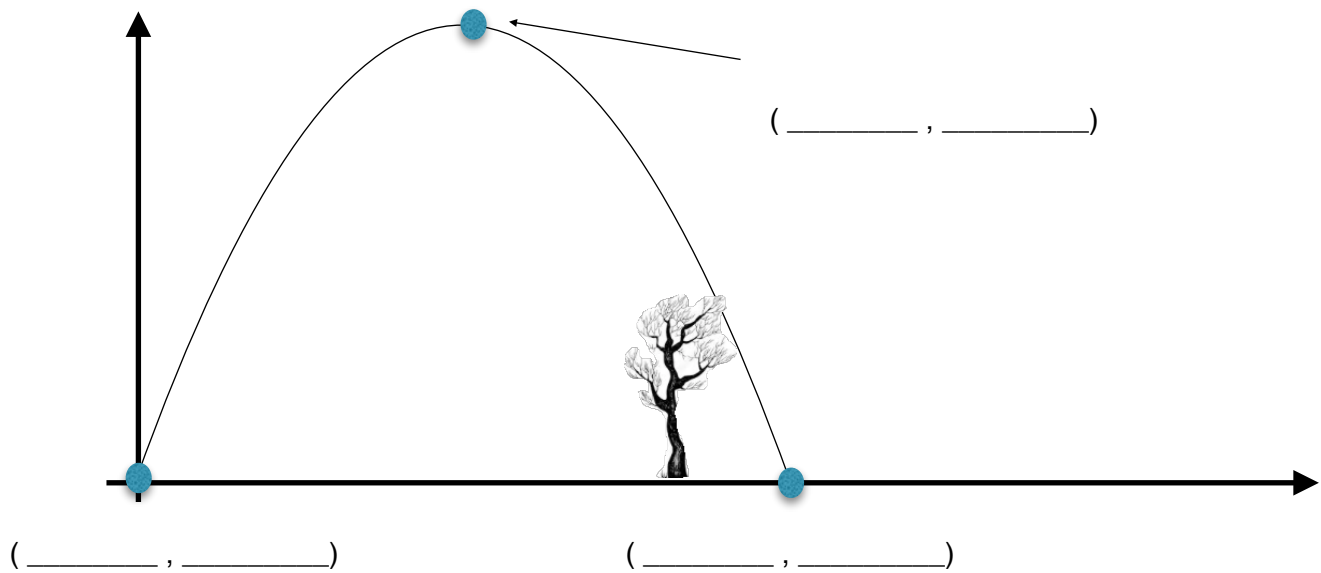


The path of a model rocket launched from the ground is parabolic. Cruz built a reusable model rocket using a kit. After launching it a few times from level ground, Cruz determined that the rocket could reach a maximum height of 400 feet after traveling a horizontal distance of 15 feet. On the flight where it reached the maximum height, the rocket landed 30 feet away from the launch site. Cruz's friends asked him to launch the rocket again in an area with several trees. He's worried that the rocket will be destroyed if the trees block its path—especially since a 115-foot-tall pine tree stands just 2 feet from the landing spot.



Write the equation of the rocket's path in the following:

- Vertex Form
- Factored Form

Will Cruz's rocket make it over the pine tree?