Shin is a beginner hang glider. He's practicing jumping from a certain height, dipping initially, and then rising. Shin should dip to a height no lower than 6 feet above the ground, which is considereda safe height, before changing direction and beginning to rise. The position of Shin's hang glider is given by $y = (x - 4)(x - 6)$, with x representing the time in seconds since Shin starts the initial jump and y representing the distance in feet from the safe height. Will Shin stay above the safe height? How long will it take for Shin to reach the initial height of the jump?

What is the minimum height Shin reaches?

Does a negative answer make sense in the context of the problem? Explain.

Find the time at which the minimum height occurs.

What are the x-intercepts and what do they represent?

Will Shin stay above the safe height? Explain.

How long will it take for Shin to reach his initial height?