Ex 1:

Haley jumps off a diving board, which is 15 meters high. She reaches a maximum height of 27 meters three seconds later. Let f(x) represent Haley's height with respect to the water and x represents the amount of time since he jumped off the diving board.

How high is Haley four seconds after jumping?   Answer: 77/3 m

Ex 2:

Mr.Pemberton invested money in the stock market. The value of his stock varied according to a quadratic function. The following table shows the value of the stock over time:

Time (days)	1	14	8	0	20
Value ($)	40	209	173	13	173

How long was the share worth at least $184?   Answer: 10 days

Ex 3:

A quarterback throws a hail mary pass to his receiver downfield. The height h in meters of the ball relative to the ground t seconds after being thrown is given by $h(t) = -5t^2 + 10t + 35$

What is the maximum height reached by the ball?   Answer: 40 m

Ex 4:

A rectangular lot is bordered on one side by a stream and on the other three sides by a total of 48 meters of fencing.

Find the dimensions and the area of the lot if its area is at a maximum.

Answer: 24m by 12m