2. [12 points] Consider the function $y = p(x) = 2x^2 - \sqrt{33}x - 6$.

a. [4 points] Find the zeros of $p(x)$ in exact form, if there are any, or explain why there aren't any. Show your work. Answers obtained using a calculator with no work shown will receive no credit.

The zeros of $p(x)$ are _____

b. [5 points] Find the $x-$ and $y-$coordinates of the vertex of $p(x)$ by completing the square. You must show all your steps and write $p(x)$ in vertex form to receive credit.

The vertex of $p(x)$ is _____

c. [3 points] Suppose $p(x + h) = 2x^2 + \sqrt{33}x - 6$ for some number h. Find h. Support your answer with graphical or algebraic evidence.

$h =$ _____

