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.

\[ h = \underline{\text{__________}} \]