

Name: _____

MATH 101

Fall 2023

HW 15: Due 12/06

*“There should be no such thing as boring
mathematics.”*

–Edsger Dijkstra

Problem 1. (10pt) Complete the square in $12x - 31 - x^2$ to find the vertex form of this quadratic function.

Problem 2. (10pt) Use the ‘evaluation method’ to find the vertex form of the quadratic function $3x^2 + 6x - 7$.

Problem 3. (10pt) Use completing the square to solve the following quadratic equation:

$$x(x + 2) = 7$$

Problem 4. (10pt) Use the quadratic formula to solve the following quadratic equation:

$$x^2 = 2(5x - 11)$$