ALGEBRA 2 HONORS
PROBLEM SET 15

DUE DATE: OCTOBER 30, 2023

Question 1. Find the discriminant and the x-intercepts of the quadratic $f(x) = 2x^2 - 6x + 3$.

Question 2. Using the discriminant, determine for what value(s) of c does the function $f(x) = 2x^2 - 3x + c$ have:

(a) Two different x-intercepts
(b) Exactly one x-intercept
(c) No x-intercepts

Question 3. Solve for x in the equation $x^2 - 2x + 3 = 18$.

Question 4. Find the points of intersection between

(a) $f(x) = x^2 - 4x + 3$ and $g(x) = 2x - 6$
(b) $f(x) = x^2 + 2x - 3$ and $g(x) = -x^2 - 13x + 1$

Question 5. Solve for x in the equation:

(a) $3x^2 + 5x - 8 = 0$
(b) $5x^2 - 7x - 3 = 0$
(c) $3x^2 + 3x = 6x$