ALGEBRA 2
PROBLEM SET #4

DUE DATE: AUGUST 29, 2023

Question 1. Consider a function $f(x) = 3x + 4$. Compute

(a) $f(0) =$

(b) $f(1) =$

(c) $f(2) =$

(d) $f(3) =$

(e) $f(-3) =$

(f) $f(10) =$

Question 2. Consider a function $f(x, y) = 2x^2 - y$. Compute

(a) $f(1, 2)$

(b) $f(2, -3)$

(c) $f(0, 100)$

Question 3. Consider a function $f(x, y, z) = x^2 + 2y - z^2$ and another function $g(x, y, z) = 3y - x^2 + z$.

What would $f(3, 2, 1) + g(1, 2, 3)$ be equal to?

Practice for Quiz

Question 4. Expand out the following:

(a) $(x + 5)(x + 2) =$

(b) $(x - 1)(2x + 3) =$

(c) $(x - \frac{1}{2})(x - \frac{3}{2}) =$

(d) $(3x + 4)(5x - 3) =$

(e) $(x + 2)(3x - 5) =$

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

(g) $(7 - x)(7 + x) =$

(h) $-(x + 1)(x + 2) =$

(i) $(5 - 2x)(3 - 2x) =$

(j) $-(1 - x)(x + 2) =$

(k) $(x + 3)^2 =$

(l) $(10 - x)^2 =$

(m) $(x - 3)^2 =$

(n) $(x-3)(x+3) =$

(o) $(5+x)^2 =$

(p) $(5-x)(5+x) =$

(q) $(x-4)(x+4) =$

(r) $(x+\sqrt{2})(x-\sqrt{2}) =$

(s) $(x+\sqrt{2})^2 =$

Question 5. If $f(x) = 9x^2 - 6x + 1$ and $g(x) = (3x-1)^2$, is the statement

$$f(x) = g(x)$$

going to be `Always True`, `Sometimes True`, or `Never True`?