MATH 1023 COLLEGE ALGEBRA Quiz 12 Name:
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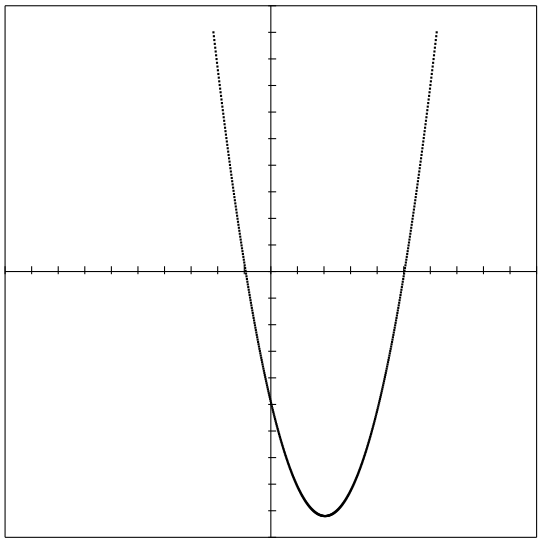
Problem 1. Fill in the requested information based on the graph.
Note that the vertex is (h, k), where $f(x) = (x - h)^2 + k = x^2 + bx + c$.



Standard Form:

Shifted Form:

a: 1 **b:** **c:** **h:** **k:**

y-intercept:

x-intercepts:

Vertex:

Problem 2. Let $f(x) = x^2 + 1$ and $g(x) = 2x + 3$. Express all polynomials in standard form.

(a) Find $(f + g)(x)$ (the sum of f and g).

(b) Find $(f \cdot g)(x)$ (the product of f and g).

(c) Find $(f \circ g)(x)$ (the composition of f and g).

(d) Find $(g \circ f)(x)$ (the composition of g and f).

(e) Find $g^{-1}(x)$(the inverse of g).