

Algebra and Calculus: Quiz 4

Name/NetID: _____

Complete all problems.

1. For **multiple choice** problems, circle the letter corresponding to the correct answer.
2. For **free response** problems, **show all work** and put a box around your final answer.

Good luck!

1. All of the following describe one-to-one functions EXCEPT

- (a) If $x_1 \neq x_2$, then $f(x_1) \neq f(x_2)$.
- (b) If $f(x_1) = f(x_2)$, then $x_1 = x_2$.
- (c) No horizontal line intersects its graph more than once.
- (d) No vertical line intersects its graph more than once.

2. If $f(x) = \frac{2x - 1}{x + 1}$, then $f^{-1}(1) =$

- (a) 1
- (b) 2
- (c) -1
- (d) -2

3. The standard form of $-x^2 + 4x - 3$ is

- (a) $-(x - 2)^2 + 1$
- (b) $-(x - 2)^2 - 1$
- (c) $-(x + 2)^2 + 1$
- (d) $-(x + 2)^2 - 1$

4. The vertex of $-x^2 + 4x - 3$ is

- (a) $(-2, -1)$
- (b) $(-2, 1)$
- (c) $(2, 1)$
- (d) $(2, -1)$

5. Graph $-x^2 + 4x - 3$, labeling the vertex, x- and y-intercepts. Use the graph to determine the domain and range of the function.