

Name:

Show all your work in order to receive maximum credit. No work, no credit.

1. Given the quadratic function $f(x) = -2x^2 - 12x + 1$, find the vertex, axis of symmetry, graph, range, and intervals where the graph of f is increasing/decreasing. [14 points]

2. A projectile is thrown upward so that its distance above the ground after t seconds is

$$h(t) = -14t^2 + 531t \quad .$$

After how many seconds does it reach its maximum height? [4 points]