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|--------------|--------------|----------------|
| <b>Name:</b> | <b>Date:</b> | <b>Period:</b> |
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## Lab06: Free Fall

- Use  $c_1 = 0.5$ ,  $v_0 = 0.0$ ,  $v_w = 0.44704$ , and initialize  $(x, y) = (0.0, 1500.0)$  at time zero. Loop until we hit the ground and print  $t$ ,  $x$ ,  $y$ ,  $v_x$ ,  $v_y$ ,  $a_x$ , and  $a_y$  at each timestep. Generate plots for  $(x, y)$ ,  $(t, v_x)$ ,  $(t, v_y)$ ,  $(t, a_x)$ , and  $(t, a_y)$ . Note carefully the various different scales! No sketches. Instead build a document, insert each plot, and explain what is happening; write complete sentences. If desired you may pair two time plots together (e.g.,  $v_x$  and  $a_x$ ) with a single explanation for both.
- Print out the finished document and attach it to this page.

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### Official Use Only

|                  |           |                |                     |
|------------------|-----------|----------------|---------------------|
| Header:          | Name      | Correct Date   | Program Description |
| Style:           | Comments  | Variable Names | Modular             |
| Data Structures: | Obvious   | General        | Lean                |
| Algorithm:       | Clear     | Correct        | Efficient           |
| Scoring:         | Raw _____ | Late _____     | Total _____         |