

# PRACTICE SHEET ON KINEMATIC EQUATION

Name:

Date:

Time:

Complete the kinematic equations below by dragging the variables into the correct spot.

|         |            |      |       |            |        |              |       |                |
|---------|------------|------|-------|------------|--------|--------------|-------|----------------|
| $V_f^2$ | $V_i^2$    | $2a$ | $at$  | $\Delta x$ | $-V_i$ | $2a\Delta x$ | $V_f$ | $V_i$          |
| $V_f^2$ | $\Delta x$ | $a$  | $V_i$ | $t$        | $V_x$  | $2\Delta y$  | $V_f$ | $\frac{1}{2}a$ |

1. final Velocity

$$V_f^2 = \square + 2 a \square$$

2. horizontal distance

$$\Delta x = \square t + \square t^2$$

3. acceleration

$$a = \frac{\square}{\square}$$

4. horizontal distance

$$\Delta x = \square \square$$

5. initial Velocity

$$V_i = \square - \square$$

6. acceleration

$$a = \frac{\square - V_i^2}{2 \square}$$

7. time

$$t = \sqrt{\frac{\square}{a}}$$

8. time

$$t = \frac{V_f - \square}{\square}$$

9. horizontal distance

$$\Delta x = \frac{\square - V_i^2}{\square}$$

10. Initial velocity

$$V_i^2 = V_f^2 - \square$$

Part 2. Match the formulas with the correct variable.

11. time  $= V_f - at$

12. Final Velocity  $= \frac{1}{2} at^2$

13. maximum distance  $= \frac{V_f - V_i}{t}$

14. range  $= V_i^2 + 2a\Delta y$

15. acceleration  $= \sqrt{\frac{2\Delta y}{g}}$

16. initial velocity  $= V_x t$