

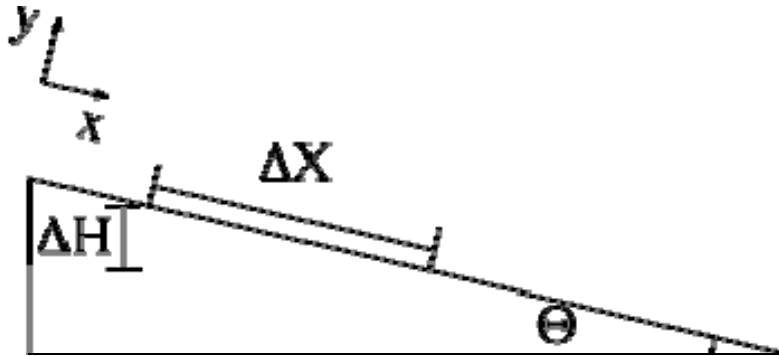
# Conservation of Energy

Print Name \_\_\_\_\_

## Pre-lab Test 6 (10 Points)

Lab Section \_\_\_\_\_ Date \_\_\_\_\_

Staple your work sheet to this pre-lab test. You are required to show your calculations! Points will be taken off if your work is not neat and well organized. Be sure to print your name on both sheets.



We are working with the airtrack shown schematically in the above figure.

- 1) Assuming that the angle  $\Theta$  is 12 degrees. How much does the Glider's height change when it travels a distance,  $\Delta X = 0.60$  meters?

$$\Delta H = \underline{\hspace{2cm}}$$

- 2) If the glider has a mass of 0.45 Kilograms, what is its change in potential energy when it travels 0.60 meters down the track?

$$\Delta E_{\text{potential}} = \underline{\hspace{2cm}}$$

- 3) If the initial velocity of the glider is 0.5 m/sec, and its final velocity is 1.3 m/sec, what is the change of the gliders kinetic energy?

$$\Delta E_{\text{Kinetic}} = \underline{\hspace{2cm}}$$

- 4) If the initial velocity of the glider is 0.5 m/sec, and its final velocity is 1.3 m/sec, then how much energy has been lost to friction?

$$\Delta E_{\text{thermal}} = \underline{\hspace{2cm}}$$