Student's name _____ Section _____ Date _____

**Data Table 14.1. Data and results of calculations**

Length of the flag $\Delta x =$ 0.05 $m$
Mass of the glider 0.289 $kg$

**First Trial**
Height $y_1 =$ .103 $m$
Height $y_2 =$ .08 $m$

**Second Trial**
Height $y_1 =$ .123 $m$
Height $y_2 =$ .092 $m$

| Trial | Photogate 1 mean $\Delta t_1$, $s$ | Photogate 2 mean $\Delta t_2$, $s$ |
|---|---|---|
| First Trial | 0.0953 | 0.0564 |
| | 0.0962 | 0.0569 |
| | 0.0968 | 0.0573 |
| Second Trial | 0.0838 | 0.0482 |
| | 0.1032 | 0.0466 |
| | 0.1091 | 0.0490 |

| Mass $m$, $kg$ | Position 1 | | | | Position 2 | | | |
|---|---|---|---|---|---|---|---|---|
| | Velocity $v_1$, $m/s$ | Kinetic energy $KE_1 = \frac{mv_1^2}{2}$, $J$ | Potential energy $PE_1 = mgy_1$, $J$ | Total energy $E_1 = KE_1 + PE_1$, $J$ | Velocity $v_2$, $m/s$ | Kinetic energy $KE_2 = \frac{mv_2^2}{2}$, $J$ | Potential energy $PE_2 = mgy_2$, $J$ | $E_2$ |
| | | | | | | | | |
| +0.02 | | | | | | | | |
| +0.05 | | | | | | | | |

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