

DATA TABLES FOR M6 PHY 151 (Conservation of Linear Momentum)

Section V-1:

Sketch the layout of your track. Your sketch should include both gliders, both photogates and a co-ordinate system indicating which direction is positive. Be sure to label which gate is plugged into jack 1 on the timer, jack 2 on the timer, which glider is m_1 and which glider is m_2 . You will use this sketch to determine the algebraic sign of the speeds recorded by the timer. If the glider was moving in the positive direction, the sign is +, if it was moving in the negative direction, the sign is -.

$m_1 =$ 144.3 gm

$m_2 =$ 143.8 gm

All speeds are in cm/s

Trial #	Speed, Gate 1 cm/s		Speed, Gate 2 cm/s	
	Initial	Final	Initial	Final
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Section V-2:

Sketch the layout of your track. Your sketch should include both gliders, both photogates and a co-ordinate system indicating which direction is positive. Be sure to label which gate is plugged into jack 1 on the timer, jack 2 on the timer, which glider is m_1 and which glider is m_3 . You will use this sketch to determine the algebraic sign of the speeds recorded by the timer. If the glider was moving in the positive direction, the sign is +, if it was moving in the negative direction, the sign is -.

$m_3 =$ _____ gm

Trial #	Speed, Gate 1 cm/s		Speed, Gate 2 cm/s	
	Initial	Final	Initial	Final
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Section V-3:

Track layout should be the same as in VI-2. The gate that both gliders pass through together will have 2 speeds, the other gate will have only one.

$m_1 =$ _____ gm $m_2 =$ _____ gm

Trial #	Speed, Gate 1 cm/s		Speed, Gate 2 cm/s	
	Initial	Final	Initial	Final
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Section V-4:

Speed gate 1: _____ cm/s

Speed gate 2: _____ cm/s

Speed gate 1: _____ cm/s

Speed gate 2: _____ cm/s

Speed gate 1: _____ cm/s

Speed gate 2: _____ cm/s

Notes: