

# EduForce™ Teacher's Lab Guide

## Inclined Plane Kinematics Lab Guide (IPK T1 A)

### Technique 1

$$v = 1.32 \text{ m/s}$$
$$v_0 = 0.0819 \text{ m/s}$$
$$t = 6.31 - 5.33 = 0.98\text{s}$$

$$v = v_0 + at$$
$$1.32 = 0.0819 + a(0.98)$$

$$a \approx 1.263 \text{ m/s}^2$$

### Technique 2

$$x = 100 - 20 = 80 \text{ cm} = 0.8 \text{ m}$$
$$t = 6.4 - 5.21 = 1.19 \text{ s}$$
$$v_0 = 0 \text{ m/s}$$

$$x = v_0t + \frac{1}{2}at^2$$

$$0.8 = \frac{1}{2}a(1.19)^2$$

$$a \approx 1.130\text{m/s}^2$$

Percent Difference:

$$\text{Percent Difference} = \frac{|\text{Value}_1 - \text{Value}_2|}{\text{Average}} * 100$$

$$\text{Percent Difference} = \frac{|1.263 - 1.130|}{1.20} * 100$$

$$\text{Percent Difference} = 11.1\%$$



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