# Lab 5: Forces – Part 1

Experiment for Physics Introductory Mechanics Lab at CSU Fullerton.

## What You Need to Know

### Introduction

### The Equipment

## What You Need to Do

### Part 1 – Weight

Table – Part 1

|  |  |  |  |
| --- | --- | --- | --- |
| Reading 1 | Reading 2 | Wcalc. | % |
|  |  |  |  |

One of these readings is weight and the other is mass. Which one is which? Explain how you know this. There are several ways.

Which value will remain the same when you are on a different planet? Explain.



In what direction does gravity always pull?

Tension Value:

### Part 2 – Tension

Part 2 - Free Body Diagram

### Part 3 – One Dimensional Newton’s 2nd Law

After you removed the level, was the ring in equilibrium? Explain in two different ways how you know the answer to this question.

### Part 4 – Two Dimensional Equilibrium

Do you think that an object has to be in equilibrium along both axes in order to be able to say that an object is in equilibrium?

### Part 5 – Vector Components

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **T** | **Tx** | **T1** | **%** | **Ty** | **T2** | **%** |
| **Part 5** |  |  |  |  |  |  |  |
| **Part 6** |  |  |  |  |  |  |  |

Table – Parts 5 and 6

### Part 6 – Vector Components, Again

Part 6 - Free Body Diagram

### Part 7 – Equilibrium For Three Vectors

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Measured Method** | | **Components Method** | | | | **%** |
| **T3** | **θ** | **T3x** | **T3y** | **T3** | **θ** |
|  |  |  |  |  |  |  |

Table – Part 7

## Conclusion

Part 7 - Free Body Diagram

Follow the lab report guide to write a conclusion on this lab.

Conclusion