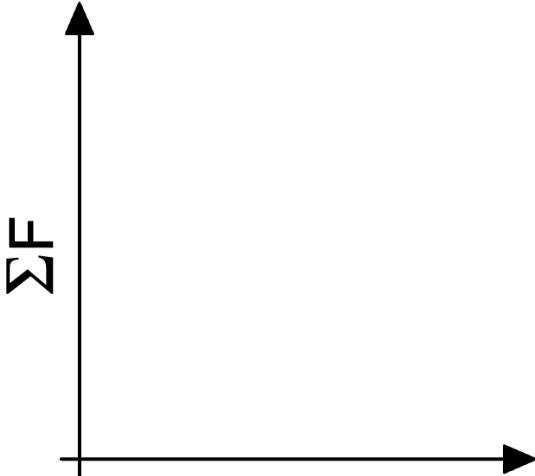
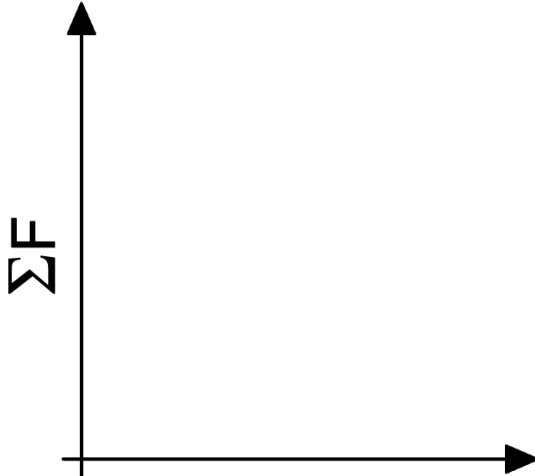


PostLab Graph Analysis | Circular Motion

Experiment 1 - F_{NET} vs. speed	Experiment 2 - F_{NET} vs. mass
<p style="text-align: center;">Sketch of Linearized Graph</p> <div style="text-align: center;">  </div> <p style="text-align: center;">label this axis</p> <p><u>Constants (give their values from the lab):</u></p> <p>mass = _____ kg</p> <p>radius = _____ m</p>	<p style="text-align: center;">Sketch Linearized Graph</p> <div style="text-align: center;">  </div> <p style="text-align: center;">label this axis</p> <p><u>Constants (give their values from the lab):</u></p> <p>velocity = _____ m/s</p> <p>radius = _____ m</p>
<p>As we've just covered, the relationship between F_{net} and variables that affect F_{net} during circular motion is:</p> $\Sigma F = \frac{mv^2}{r}$	
<p>Based on the linearized F_{net} vs. speed graph:</p> <div style="display: flex; justify-content: space-around; align-items: center; text-align: center;"> <div style="border: 1px solid black; border-radius: 15px; width: 60px; height: 60px; margin: 5px;"></div> <div style="font-size: 2em; margin: 0 10px;">=</div> <div style="border: 1px solid black; border-radius: 15px; width: 60px; height: 60px; margin: 5px;"></div> <div style="font-size: 2em; margin: 0 10px;">×</div> <div style="border: 1px solid black; border-radius: 15px; width: 60px; height: 60px; margin: 5px;"></div> </div> <div style="display: flex; justify-content: space-between; font-size: 0.8em; margin-top: 5px;"> <div style="width: 30%;">Vertical (y)</div> <div style="width: 30%;">Slope (A)</div> <div style="width: 30%;">Horizontal (x)</div> </div> <div style="display: flex; justify-content: space-between; font-size: 0.7em; margin-top: 5px;"> <div style="width: 30%;">Variable on the vertical axis</div> <div style="width: 30%;">Must contain the remaining variables from the equation</div> <div style="width: 30%;">Variable on the horizontal axis</div> </div>	<p>Based on the linearized F_{net} vs. mass graph:</p> <div style="display: flex; justify-content: space-around; align-items: center; text-align: center;"> <div style="border: 1px solid black; border-radius: 15px; width: 60px; height: 60px; margin: 5px;"></div> <div style="font-size: 2em; margin: 0 10px;">=</div> <div style="border: 1px solid black; border-radius: 15px; width: 60px; height: 60px; margin: 5px;"></div> <div style="font-size: 2em; margin: 0 10px;">×</div> <div style="border: 1px solid black; border-radius: 15px; width: 60px; height: 60px; margin: 5px;"></div> </div> <div style="display: flex; justify-content: space-between; font-size: 0.8em; margin-top: 5px;"> <div style="width: 30%;">Vertical (y)</div> <div style="width: 30%;">Slope (A)</div> <div style="width: 30%;">Horizontal (x)</div> </div> <div style="display: flex; justify-content: space-between; font-size: 0.7em; margin-top: 5px;"> <div style="width: 30%;">Variable on the vertical axis</div> <div style="width: 30%;">Must contain the remaining variables from the equation</div> <div style="width: 30%;">Variable on the horizontal axis</div> </div>

Experiment 1 - F_{NET} vs. speed	Experiment 2 - F_{NET} vs. mass
Use your constants & your equation at the bottom of the last page to calculate the expected value for the MASS of the spinner.	Use your constants & your equation at the bottom of the last page to calculate the expected value for the VELOCITY of your spinner.
Give the measured value for the MASS of your spinner (from your constants).	Give the measured value for the VELOCITY of your spinner (from your constants).
Calculate the Percent Difference between the expected and measured values for the MASS .	Calculate the Percent Difference between the expected and measured values for the VELOCITY .

$$\% \text{ Difference} = \frac{|\text{Expected} - \text{Measured}|}{\frac{1}{2}(\text{Expected} + \text{Measured})}$$