Exercise 1

Katherine

Exercise 2

a. Parallax is the change in position of an object relative to its background because of the angle you view it.
b. Parallax will affect your measurement of the initial angle as if you do not view the protractor straight on you may incorrectly measure the angle from which you are releasing it.

Exercise 3

Obtain 1m string, a protractor, and multiple bobs of various weights.

All testing should be recorded on one camera with a consistent frame-rate. The number of frames will be used to determine the period of the pendulum. i.e if there are 300 frames on a 30 fps camera between the initial release of the pendulum and the pendulum's return to the release point the period is 10 seconds.

For each relevant feature test multiple levels while keeping the other features constant (i.e for length of string 1 m, .75 m etc. while keeping the length of string and angle of displacement constant). Test each level multiple times and take the mean to reduce variance and human error. Take the mean of the final mean time for each level and measure the standard deviation in seconds for each bob.

If the standard deviation is very low it is extremely likely the feature does not affect the time of the period. The features that have a high standard deviation are the features that affect the period of the pendulum.