

Springs / Hooke's law (28 pts)

Graph of force vs. length - 4 pts

Axes labels and units - 1 pt

Regression line - 1 pt

Equation of the line using F and L as variables - 2 pts

For every 1m of length, the spring applies a force of ...N - 1 pt

5a. The unstretched length of the spring

5b. The slope would be higher; there would be a shorter length at each applied force

Spring in series graph - 3 pts

Axes labels and units - 1 pt

Regression line - 1 pt

Equation of the line using F and L as variables - 2 pts

Two springs in series have approximately half the spring constant of a single spring – 1 pt

Springs in parallel graph - 3 pts

Axes labels and units - 1 pt

Regression line - 1 pt

Equation of the line using F and L as variables- 2 pts

Two springs in parallel have approximately twice the spring constant of a single spring – 1 pt