This table summarizes the graphs and the relationships that you are most likely to see in this Physics course.

|  |  |  |  |
| --- | --- | --- | --- |
| Graph Shape | **Written relationship** | **Modification required to linearize the graph** | **Algebraic representation** |
| **Straight Horizontal line**  **y**  **x** | **No Relationship****y is independent of x** **As x changes, y remains the same.** | **None** | **y = b** |
| **Straight Diagonal Line**  **y**  **x** | **Linear**  **y is directly proportional to x** | **None** | **y = mx + b** |
| **hyperbola**  **y**  **x** | **Inverse or**  **Inverse squared**  **y is inversely proportional to x.** | **Inverse**  **Graph y vs**  **or y vs x-1**  **Inverse Squared**  **Graph y vs**  **or y vs x-2)** | **y = m+ b**  **or**  **y = + b** |
| top or bottom opening parabola **y**  **x** | **Quadratic or**  **Exponential**  **y is proportional to the square of x.** | **Graph y vs x2**  **or**  **y vs xn** | **y = mx2 + b**  **y = mxn + b** |
| side opening parabola **y**  **x** | **Logarithmic**  **Square Root**  **(Use exponential relationship choices in LoggerPro curve fit)**  **The square of y is proportional to x.** | **Graph y2 vs x**  **or**  **yn vs x** | **y2 = mx + b**  **yn = mx + b** |