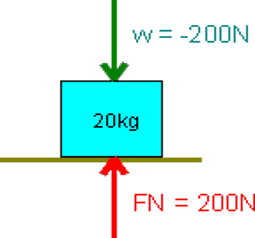
**Forces, Scatter Plots, and Polygons Worksheet**

**Normal Forces**

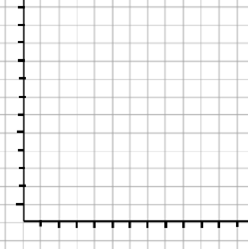
* A normal force exists between two solid objects when their surfaces are pressed together due to other forces acting on one or both objects. (For example, a box sitting on a table.)
* If an object is sitting on a table (or level surface), then the normal force is opposite and equal of the weight of the object.



**Tension Forces**

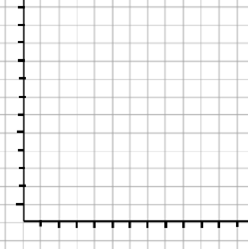
* A tension force occurs when a rope, wire, cord or similar device without slack pulls on another object.
* The tension force always points in the direction of the pull.
* F = mg where m= mass (kg) and g= gravity constant (9.8 m/s²)

The image below is an elevator with mass 300 kg hanging from a single cable



**Scatterplots**

|  |  |
| --- | --- |
| x | y |
| 1 | 2 |
| 2 | 4 |
| 3 | 6 |
| 4 | 8 |



|  |  |
| --- | --- |
| x | y |
| 1 | 0 |
| 2 | 1 |
| 3 | 2 |
| 4 | 3 |

Draw each shape. What makes this shape different than the others? Which would hold the most weight?

* Triangle
* Square
* Hexagon
* Trapezoid
* Circle