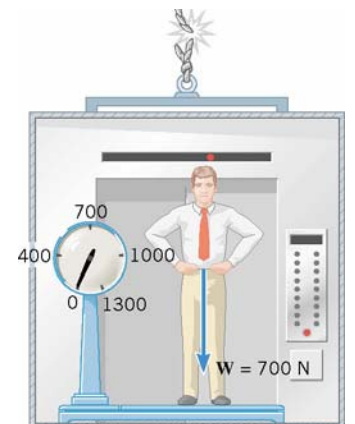
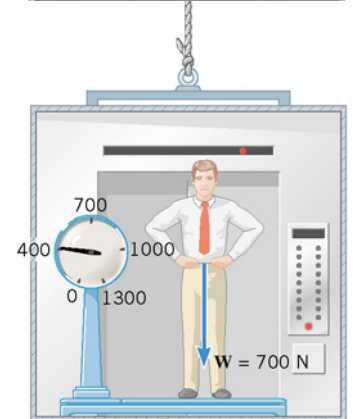
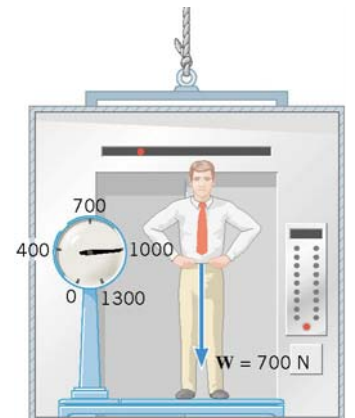
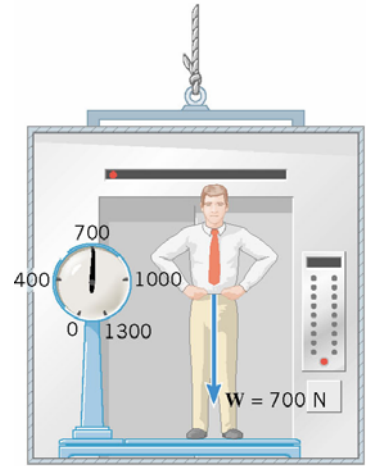


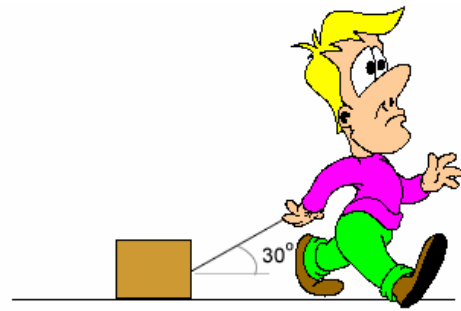
## Physics 151 Class Exercise: Net Force

In the sequence of images that follow, Bob Costas is shown riding on an elevator while standing on a scale that illustrates his apparent weight. In the image to the immediate right, Bob is shown standing in the elevator stopped at the 6<sup>th</sup> floor. Determine the acceleration of the elevator in each of the four images. (Hint: You should begin by drawing a FBD and specifying your coordinate system.)



2. Wally is dragging a 300 N crate across a smooth floor by pulling with a 65 N force on a rope at a  $30^\circ$  above the horizontal. (Hint: You should begin by drawing a FBD and specifying your coordinate system.)

(a) Calculate the acceleration of the crate.



(b) Calculate the value of the normal force exerted by the floor on the crate.

(c) Calculate the value of the force Wally must apply to have the crate accelerate at  $0.75 \text{ m/s}^2$ .