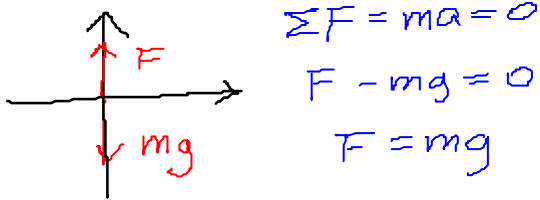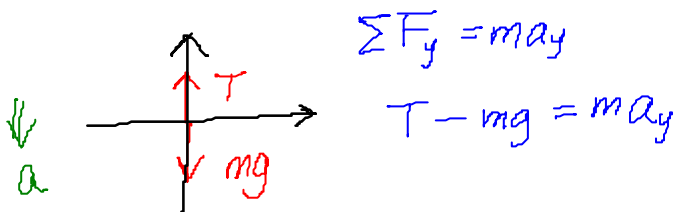# wmsaqqa

Friday, December 23, 2011
6:12 PM

1. Remember that since the speed is constant, the acceleration is zero. This means that the net force is also zero. The upward force is equal to the gravitational force!

$$\Sigma F = ma = 0$$
$$F - mg = 0$$
$$F = mg$$

Now, you have to use the energy equation. Since the force is in the direction of the displacement, the eq boils down to W=Fd.

2. Newton's third law states that for every force applied, there is a equal and opposite reaction force! The magnitude stays the same. However, the direction would be opposite. So the answer is still 6000N.

3. Rope means tension! I will show you how to set up the problem.

$$\Sigma F_y = ma_y$$
$$T - mg = ma_y$$

Note that I have chosen up as positive. So acceleration would be a negative value. Solve for T.