78. From the reading when the elevator was at rest, we know the mass of the object is $m = 65/9.8 = 6.6$ kg. We choose $+y$ upward and note there are two forces on the object: mg downward and T upward (in the cord that connects it to the balance; T is the reading on the scale by Newton's third law).

(a) "Upward at constant speed" means constant velocity, which means no acceleration. Thus, the situation is just as it was at rest: $T = 65$ N.

(b) The term "deceleration" is used when the acceleration vector points in the direction opposite to the velocity vector. We're told the velocity is upward, so the acceleration vector points downward $(a = -2.4$ m/s$^2)$. Newton's second law gives

$$T - mg = ma \implies T = (6.6)(9.8 - 2.4) = 49 \text{ N}.$$