11. We apply Eq. 5-12.

(a) The mass is $m = W/g = (22\,\text{N})/(9.8\,\text{m/s}^2) = 2.2\,\text{kg}$. At a place where $g = 4.9\,\text{m/s}^2$, the mass is still $2.2\,\text{kg}$ but the gravitational force is $F_g = mg = (2.2\,\text{kg})(4.9\,\text{m/s}^2) = 11\,\text{N}$.

(b) As noted, $m = 2.2$ kg.

(c) At a place where $g = 0$ the gravitational force is zero.

(d) The mass is still $2.2\,\text{kg}$.