Grav. Fields

① The net force needs to be the same since the mass of the vehicle is unchanged and

$$a = \frac{\Sigma F}{m}$$

② $F_g = mg$

$= (50)(0.31)$

$F_g = 15.5\ N$

③ a) weight $= F_g$

$= mg$

$= (115)(9.8)$

weight $= 1127\ N$ Mass $= 115\ Kg$

b) weight $= 0$ (no gravity)

Mass $= 115\ Kg$

④ • use a force scale to measure the F_g on a known mass m

$$g = \frac{F_g}{m}$$

• drop an object from a known height and time how long it takes to hit the ground then use kinematics to find a $(a = g)$

$$d = \frac{1}{2}at^2$$

⑤ Altitude - farther from center of Earth, gravity gets weaker

Latitude - farther from equator, gravity gets stronger

⑥ Grav. Field - area around a mass where another mass will be attracted

Grav. Field Intensity - the strength of a gravitational field (force per unit of mass)

⑦ Direction and intensity (how close together the lines are)