175 kg = _____ weight (N)

$F_g = m \cdot g$

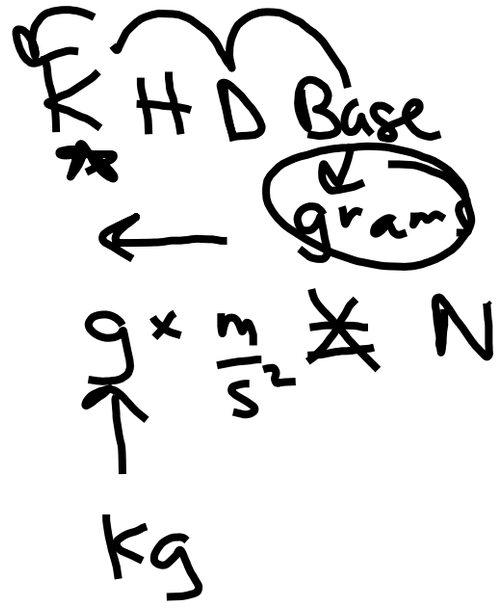
$F_g = 175\,(kg) \times 9.8\,\left(\frac{m}{s^2}\right) = 1{,}715\,(N)$ ← $kg \cdot \frac{m}{s^2}$

25g = ——— weight (N)

$F_g = m * g$

$= .025\,kg \times 9.8$

$= 0.245\,N$



$F_g = 200\,N$

$m = 50\,kg$

$a = \_\_\_\_\ \frac{m}{s^2}$

$F_g = m \cdot a$

$\frac{200\,kg \cdot \frac{m}{s^2}}{50\,kg} = \frac{50\,kg \cdot a}{50\,kg}$

$= 4\ m/s^2$

Pg. 354

Free fall = when only gravity acts on an object. (no air resistance)

↳ obj. in free fall all fall @ the same rate when dropped = on average $9.8 \frac{m}{s^2}$ for on earth.

Pg. 356

Terminal velocity: the force of gravity ↓ equals the force of friction (air resistance) ↑

10N ↓

penny

10N ↑

Net force = zero Newtons

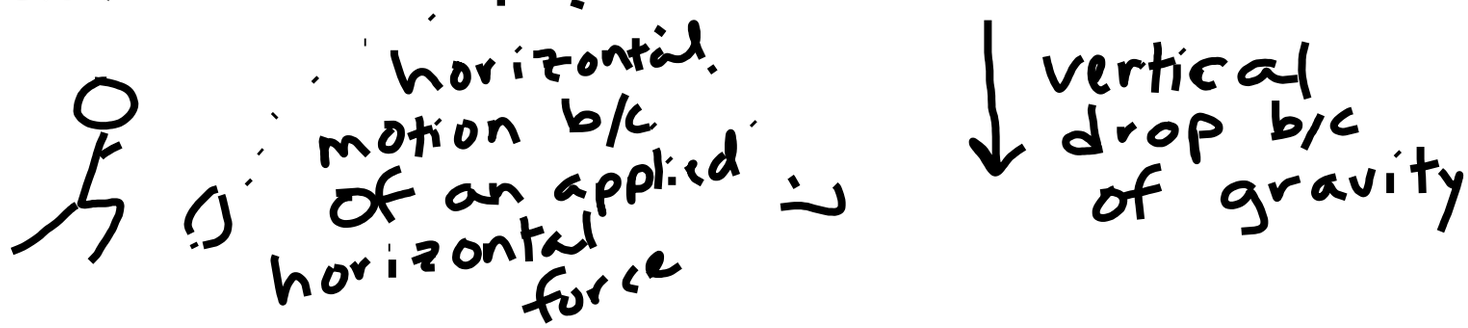
★ • if net force = zero newtons obj. is...
- not accelerating (constant speed)

OR

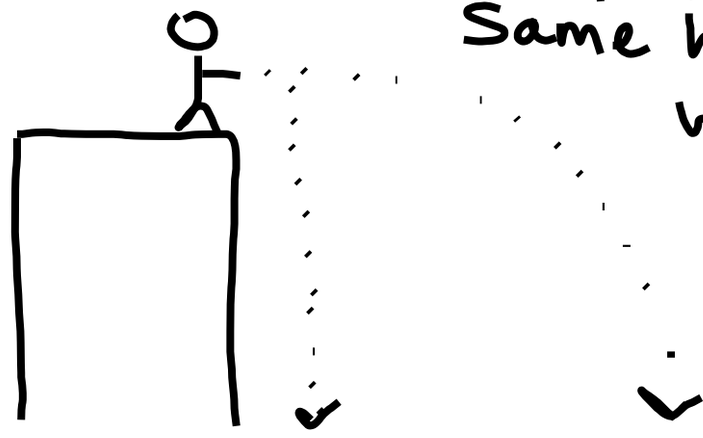
- not moving

Pg. 358

Projectile Motion = the curved path an object follows when it is thrown or launched



Question: Bullet dropped from a cliff, a 2nd bullet shot horizontal at Same height, which one if either will hit ground first?



Answer: both will hit @ the same time b/c gravity affects both things equally.