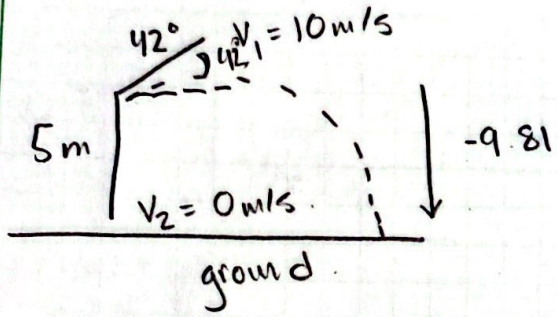
2-9-3	10/14/22	Isaac Abella

Practice 2)

P: Solve for time at which the ball hits the ground.

Calculate x cords for all values
Calculate y cords for all values
plot in excel

R:)



O:) height (y_0) = 5m
T = .1, .2, .3, ...
$V_1 = 10$ m/s
ang° = 42°
a/g = -9.81 m/s²
V_2 = unknown.

Calculate:) givens. T_0, V_1, a, h, V_2 to find y_F

Solve for V_2 first.

$V_F^2 = V_0 - 2gT(\ldots) = 10\text{m/s} - (-9.81)(.1)$

(V_1, g, T)

Now Y. cord via $y = y_0 + V_0 t - \frac{1}{2} g t^2$.

$y = 5 + 10\text{m/s}(t) - \frac{1}{2}(-9.81)(t)^2$

$\rightarrow 5 + 10 \cdot \sin(42)(t) - \frac{1}{2}(-9.81)(t)^2$

$X = 5 + 10\text{m/s}(t) - \frac{1}{2}(0)(t)^2$

$\rightarrow 5 + 10 \cdot \cos(42)(t) - \frac{1}{2}(0)(t)^2$

Find y com for y initial velocity and x com for x initial.