In [ ]:

```
from IPython.display import display, Math
from sympy import Eq, solve, latex, Rational
from sympy.physics.units.systems import SI
from sympy.physics.units import Quantity, length, mass, time
```

In [ ]:

```
t = Quantity('t', latex_repr='t')
g = Quantity('g', latex_repr='g')
v0x = Quantity('vAx', latex_repr='v_{Ax}')
v0y = Quantity('vAy', latex_repr='v_{Ay}')
xA = v0x * t
yA = v0y * t - g * t**2 / 2
```

In [ ]:

```
param = {g: 2, v0x: 3, v0y: 4}
xAs = xA.subs(param)
yAs = yA.subs(param)

max_t = 4
dt_denom = 10
dt = Rational(1, dt_denom)
xA_list = [xAs.subs(t, i * dt) for i in range(dt_denom * max_t + 1)]
yA_list = [yAs.subs(t, i * dt) for i in range(dt_denom * max_t + 1)]
```

In [ ]:

```
import matplotlib.pyplot as plt
plt.scatter(xA_list, yA_list)
plt.show()
```