


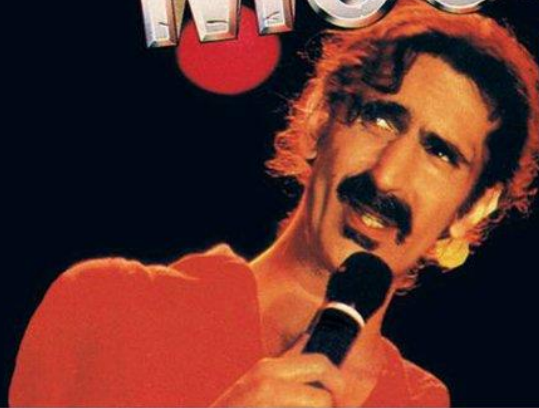
DOES
HUMOR  **R**
BELONG IN
PHYSICS?


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DOES
HUMOR
BELONG IN
MUSIC?

FRANK
ZAPPA



DOES
HUMOR **R**
BELONG IN
PHYSICS?



*Een leerling die om de stof lacht,
heeft over natuurkunde nagedacht.*



McPhysics



Momenten-sommetje



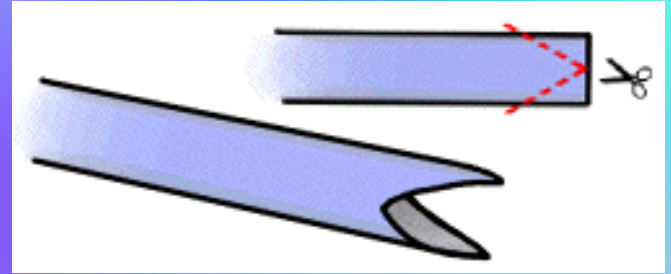
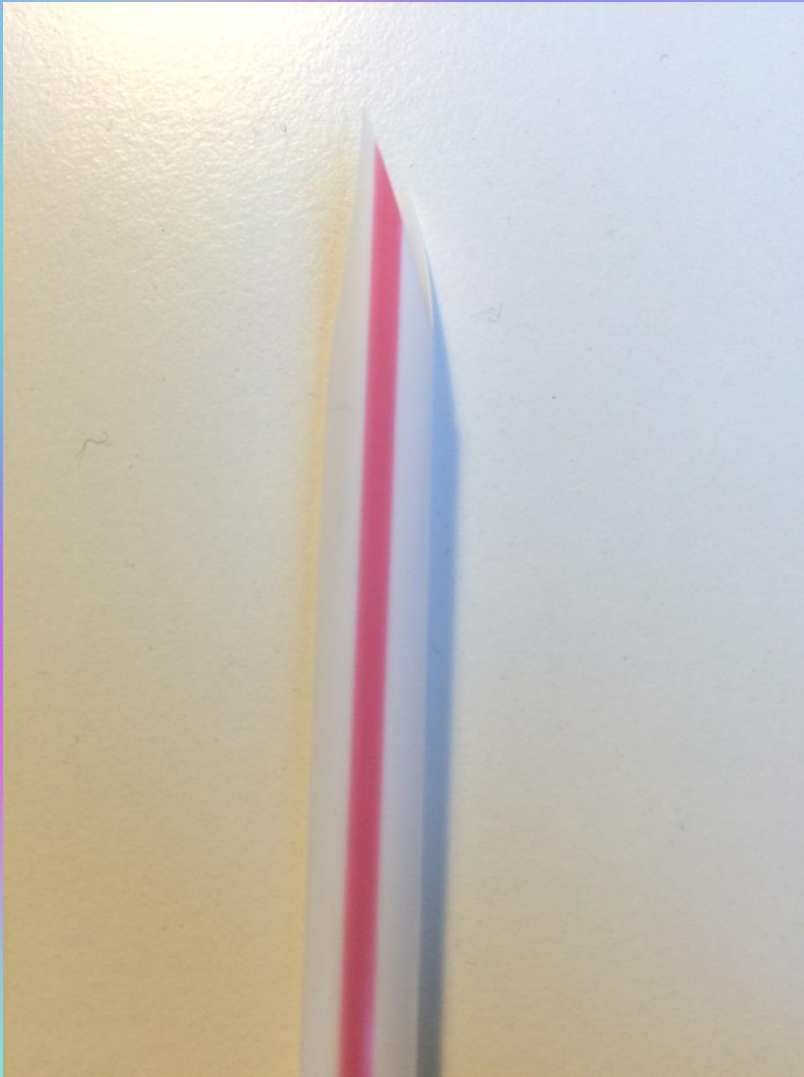
Momenten-sommetje



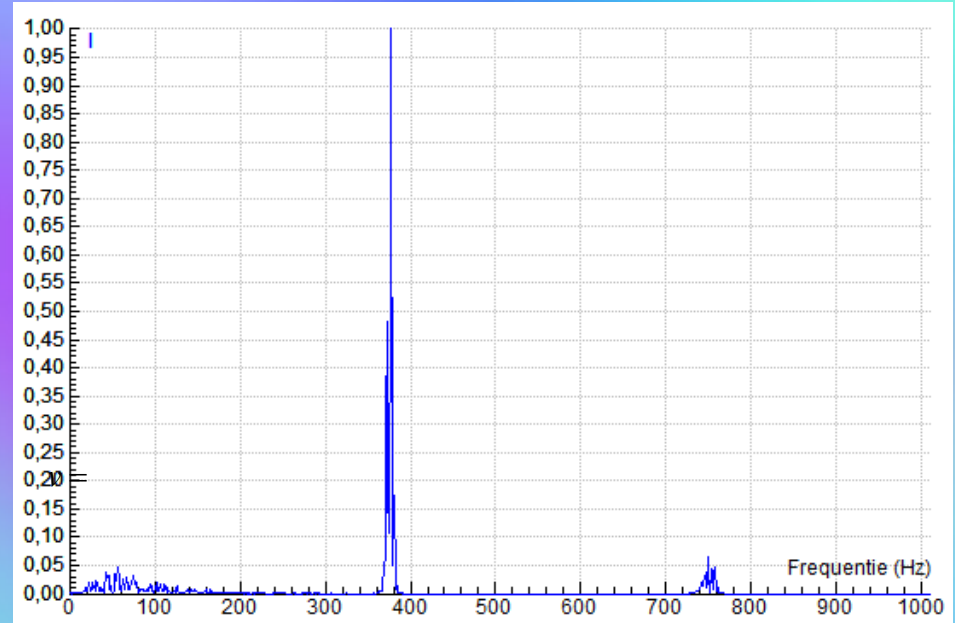
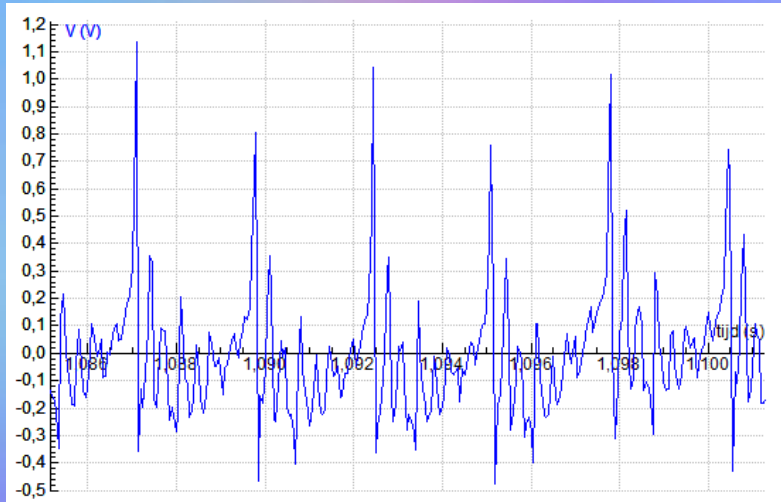
Momenten-sommetje



Rietjessaxofoon



Rietjessaxofoon



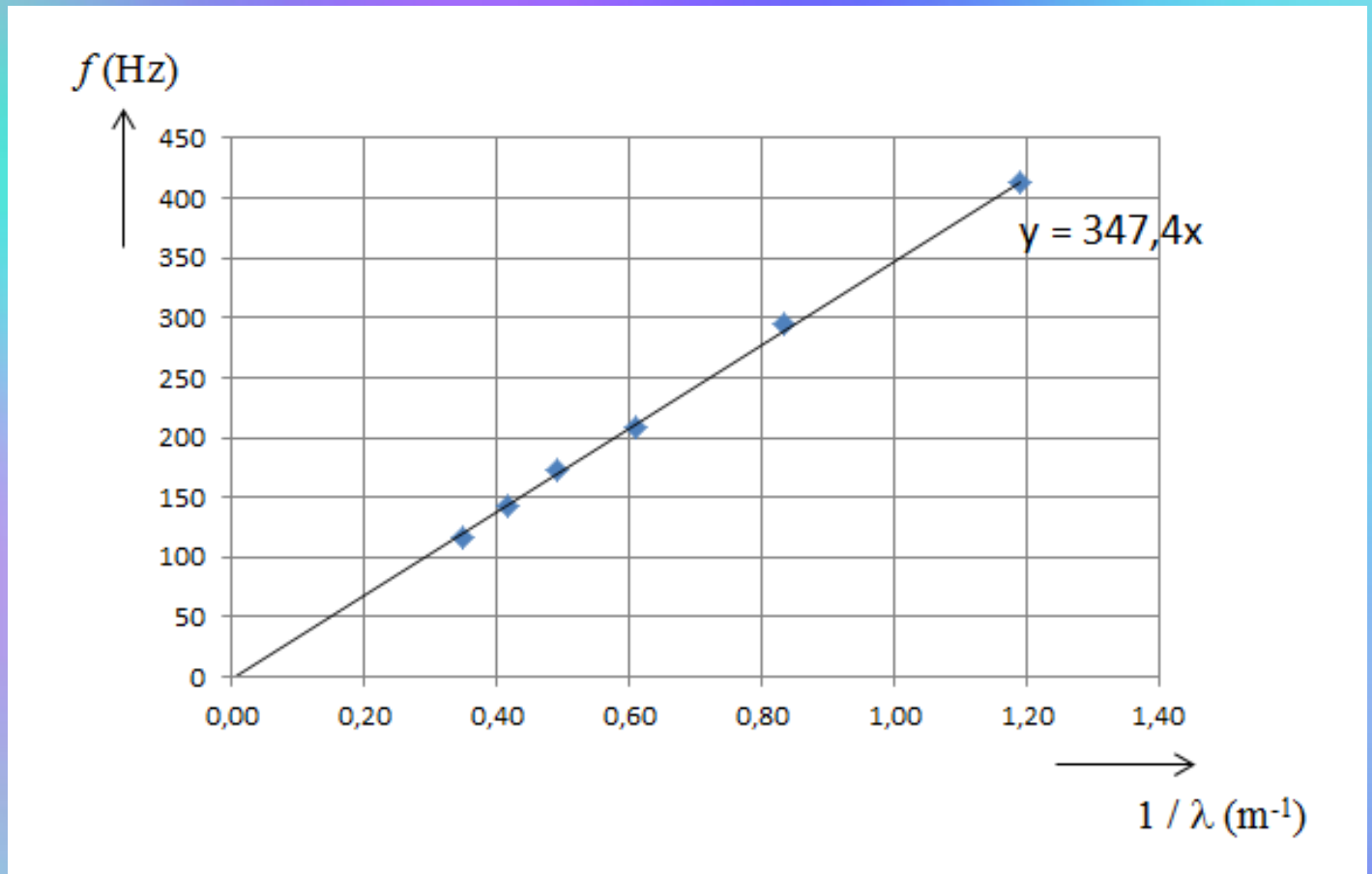
$$f = 380 \text{ Hz}$$

$$v = \lambda f \quad \rightarrow \quad \lambda = \frac{v}{f} = \frac{343}{380} = 0,90 \text{ m} \quad \rightarrow \quad L = \frac{\lambda}{4} = \frac{0,90}{4} = 0,22 \text{ m}$$

(en dat klopt vrij aardig)

Rietjessaxofoon

Lengte variëren – frequentie toon en golflengte bepalen – geluidssnelheid



Bommetje XXL



Bommetje XXL



Bommetje XXL

Energieverlies door overdracht op luchtkussen:

$$E_{z,monster} = m_{monster}gh = 100 \cdot 9,81 \cdot 7,0 = 6,87 \cdot 10^3 \text{ J}$$

$$E_{z,lisanne} = m_{lisanne}gh = 55 \cdot 9,81 \cdot 8,5 = 4,59 \cdot 10^3 \text{ J}$$

$$\text{perc. verlies} = \frac{E_{z,monster} - E_{z,lisanne}}{E_{z,monster}} \cdot 100\% = 33\%$$

Snelheid waarmee Lisanne gelanceerd wordt:

$$v = \sqrt{\frac{2E_{z,lisanne}}{m}} = \sqrt{\frac{2 \cdot 4,59 \cdot 10^3}{55}} = 13 \text{ m/s}$$



Buurman en Buurman

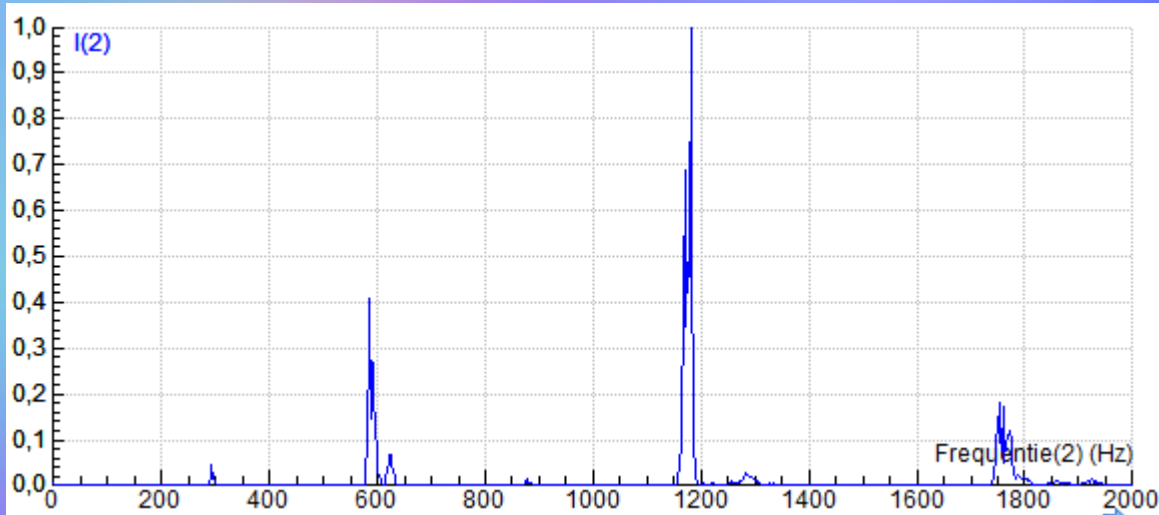


soms gaat er eens iets fout.....
..... dan heb je een probleem,
maar dat lossen wij dan simpel op!

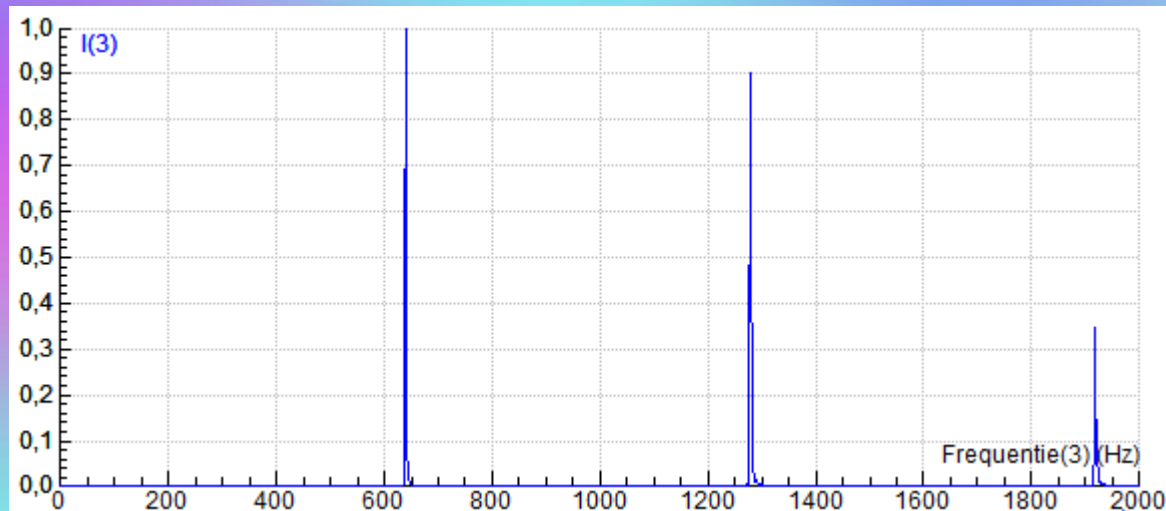
Buurman en Buurman



Fysica Feest



(met tong)

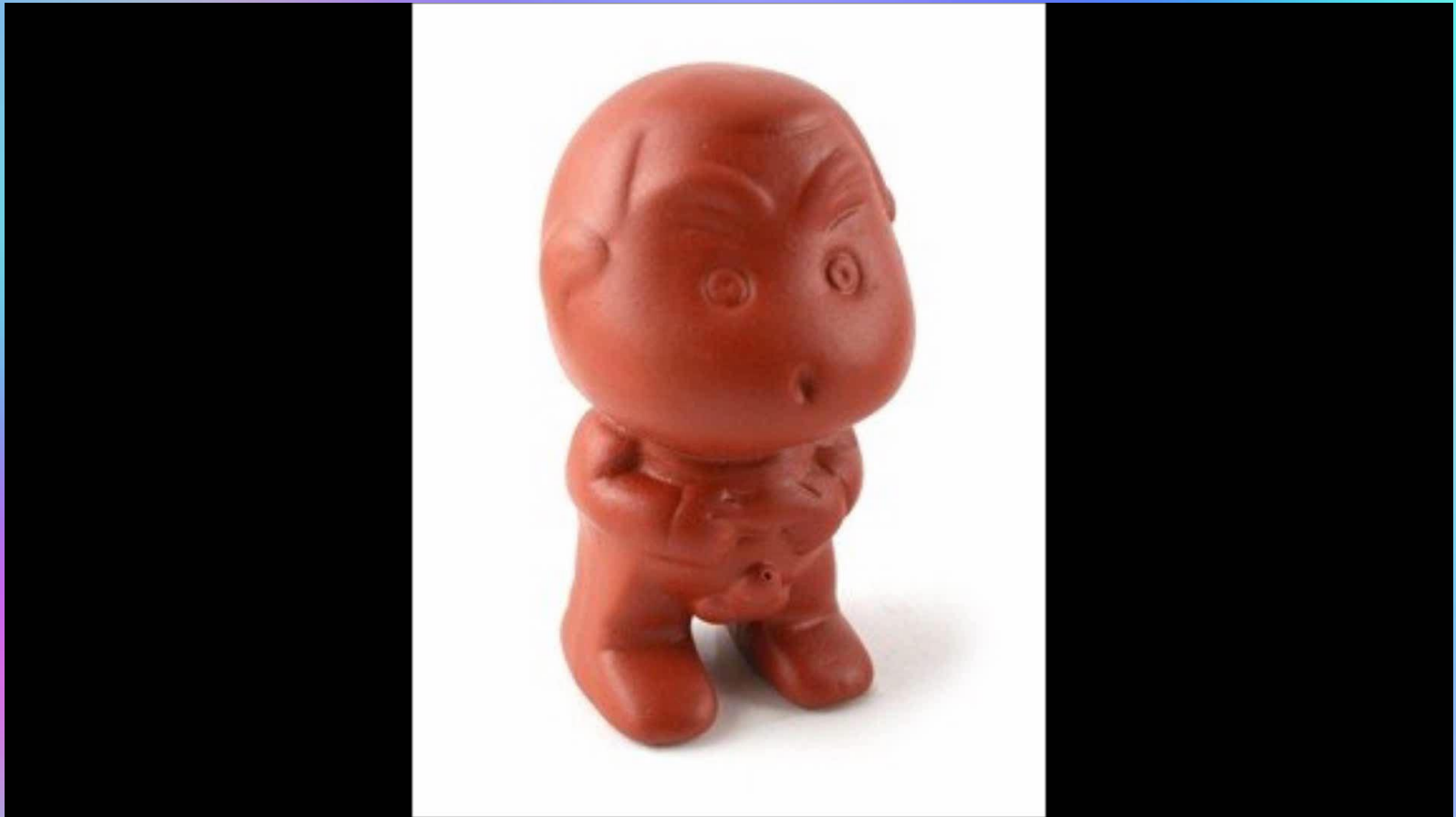


(zonder tong)

Pee Pee Boy



Pee Pee Boy

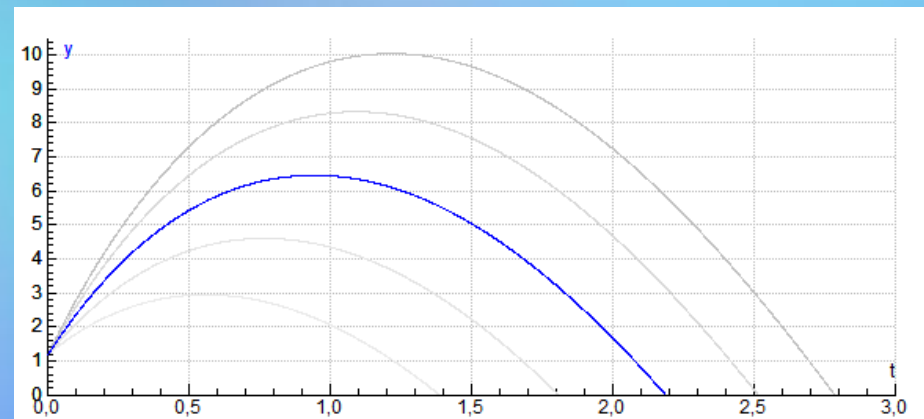
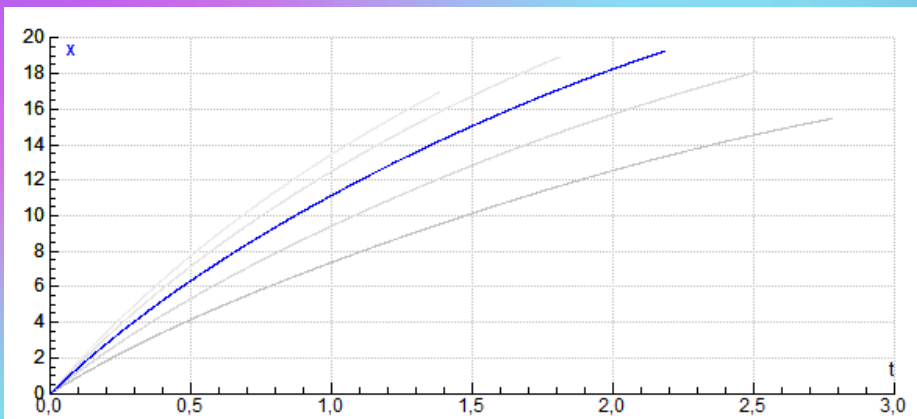
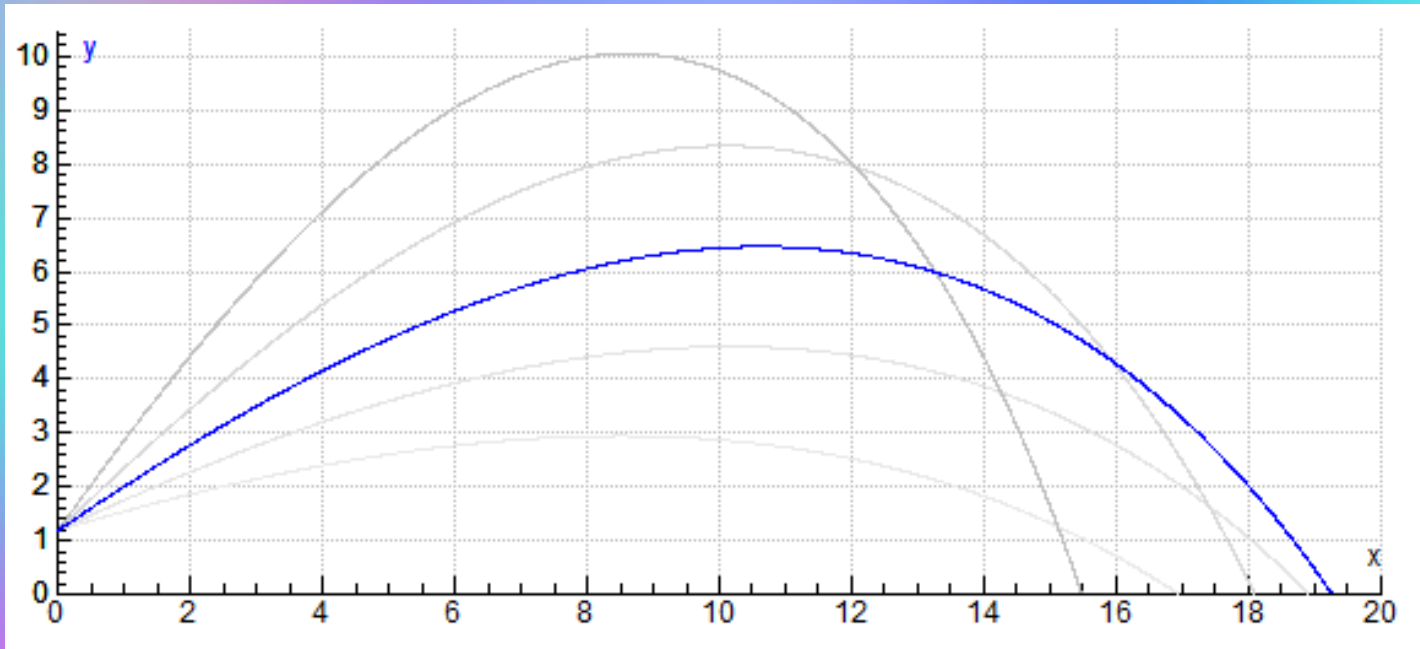


Nerf gun



```
Modelvenster
'Stopconditie ingesteld
v = SQRT(vx^2 + vy^2)
Fw = 0,5 * Cw * rho * A * v^2
Fwx = Fw * (vx / v)
Fwy = Fw * (vy / v)
Frx = -Fwx
Fry = Fz - Fwy
ax = Frx / m
ay = Fry / m
dx = ax * dt
vx = vx + dx
dx = vx * dt
x = x + dx
dvy = ay * dt
vy = vy + dvy
dy = vy * dt
y = y + dy
t = t + dt
Cw = 0,6
rho = 1,293 'kg/m^3
A = 1,3E-4 'm^2
v = 20 'm/s
alfa = 30 '°
vx = v * cos(alfa) 'm/s
vy = v * sin(alfa) 'm/s
m = 0,0011 'kg
g = -9,81 'm/s^2
Fz = m * g 'N
x = 0 'm
y = 1,2 'm
t = 0 's
dt = 0,001 's
```

Nerf gun




Blue man group



Blue man group



**DON'T TAKE YOURSELF TOO
SERIOUSLY. NO ONE ELSE
DOES.**

DOES
HUMOR **R**
BELONG IN
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