```
// NASA atmosphere model
//pressure in kPa, h in m
//temp in Celsius
//End of NASA atmosphere
```

$$\text{nasaT}(h) := \begin{cases} -131.21 + .00299 \cdot h & \text{if } h > 25000 \\ -56.46 & \text{else if } h > 11000 \\ 15.04 - .00649 \cdot h & \text{else} \end{cases}$$

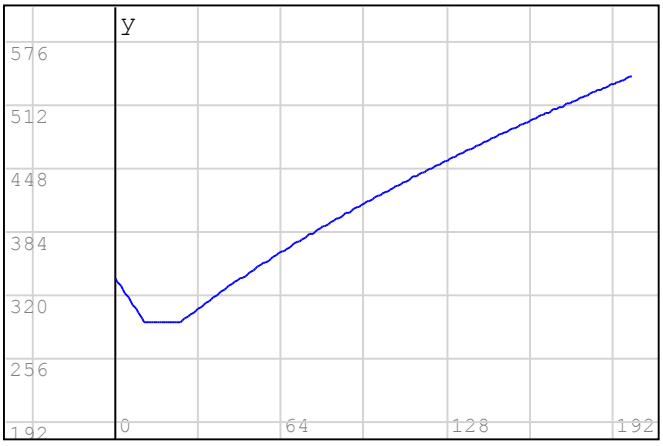
$$\text{nasaP}(h) := \begin{cases} 2.488 \cdot \left(\frac{\text{nasaT}(h) + 273.1}{216.6} \right)^{-11.388} & \text{if } h > 25000 \\ 22.65 \cdot \exp(1.73 - .000157 \cdot h) & \text{else if } h > 11000 \\ 101.29 \cdot \left(\frac{\text{nasaT}(h) + 273.1}{288.08} \right)^{5.256} & \text{else} \end{cases}$$

$$\text{nasa}\rho(h) := \frac{\text{nasaP}(h)}{.2869 \cdot (\text{nasaT}(h) + 273.1)}$$

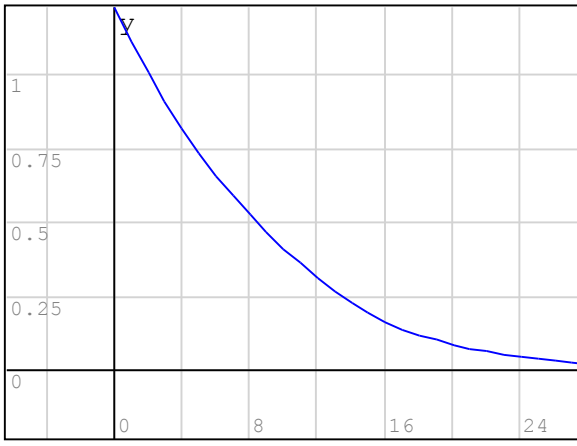
$$\text{nasaM1}(h) := 330 \cdot \sqrt{\frac{273.1 + \text{nasaT}(h)}{273.1}} \qquad \text{//speed of sound at altitude h in m/s}$$

```
for i := 1, i < 201, i := i + 1
    M_{i,1} := i - 1
    M_{i,2} := nasaM1((i - 1) · 1000)
```

```
for i := 1, i < 201, i := i + 1
    rho_{i,1} := i - 1
    rho_{i,2} := 1 · nasaρ((i - 1) · 1000)
```



M

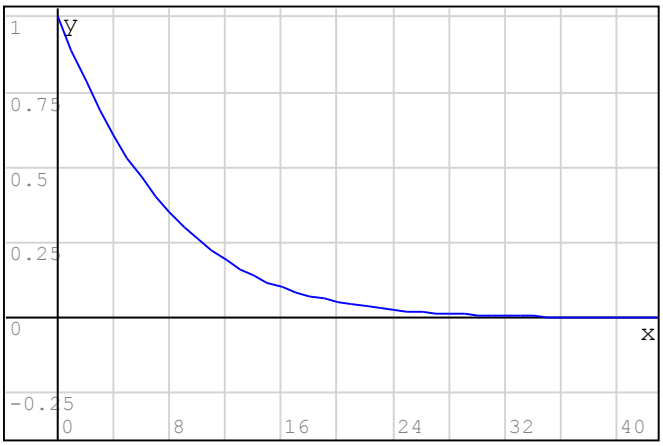


rho

for $i := 1, i < 201, i := i + 1$

$P_{i,1} := i - 1$

$P_{i,2} := \frac{nasaP((i-1)\cdot 1000)}{101.325}$

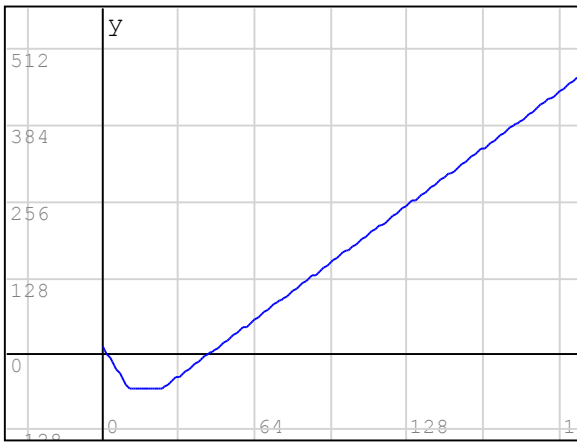


P

for $i := 1, i < 201, i := i + 1$

$T_{i,1} := i - 1$

$T_{i,2} := nasaT((i-1)\cdot 1000)$



T