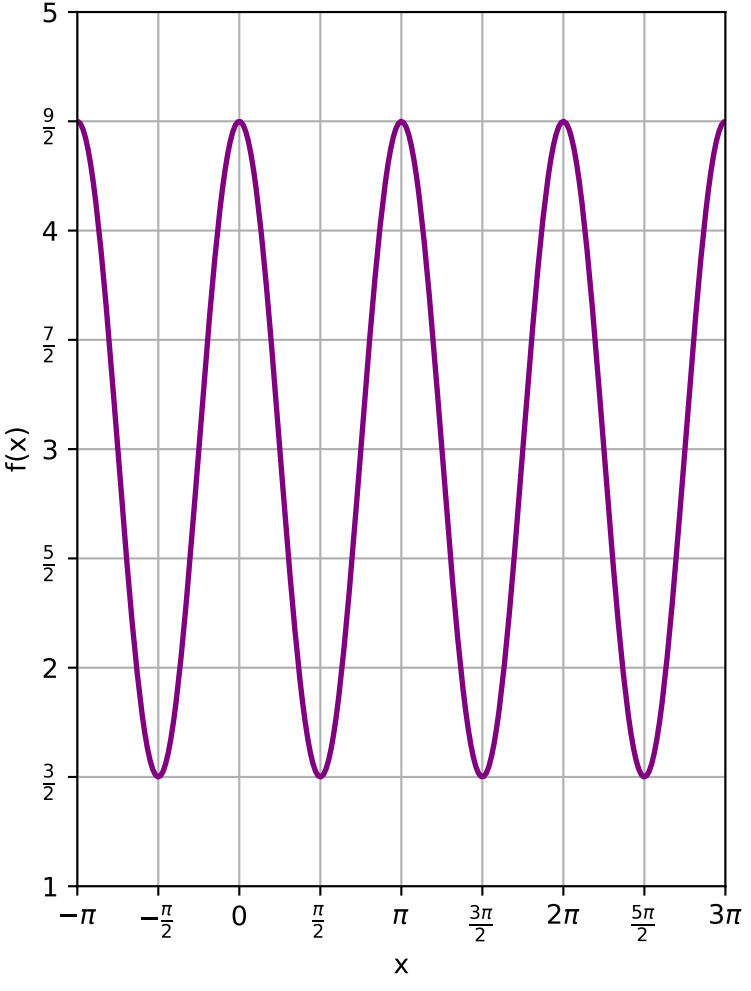
Determining the parameters of a sinusoidal function

$f(x) = \frac{3}{2}\sin(2x + \frac{\pi}{2}) + 3$



Explanation

The sinusoïdal function is $f(x) = a\sin(bx + c) + d$

where:

- ✏ T is the period
  given by the x-difference between two consecutive peaks
- ✏ a is the amplitude $a = \frac{y_{max} - y_{min}}{2}$
- ✏ b is the frequency : $b = \frac{2\pi}{T}$ (radians per unit)
- ✏ c is the phase shift : $(-\frac{c}{b})$ is the horizontal shift
- ✏ d is the vertical shift $d = \frac{y_{max} + y_{min}}{2}$