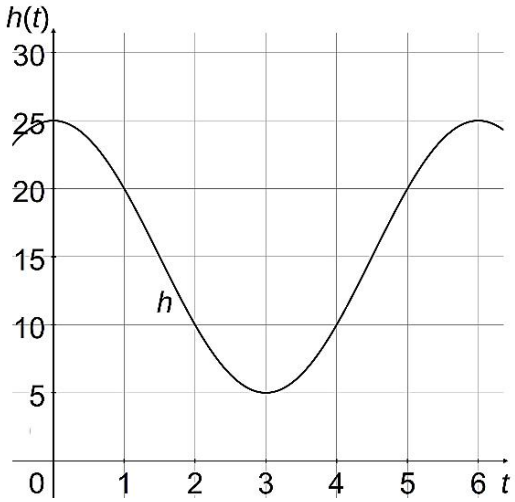
**Exercise 1** Calc. : ✗

The height of the tip of a windmill sail is modelled by a periodic function $h$ defined by:

$$h(t) = a \cdot \sin(b \cdot (t - 4.5)) + d,$$

where $t$ is the time in seconds and $h(t)$ is the height of the tip above the ground in metres. The graph of $h$ is shown on the right.




a) **Determine** the height of the tip of the windmill sail at $t = 9$ seconds. 2 marks

b) **Determine** the values of $a$, $b$ and $d$. 3 marks