Graph sheet

$y = a\cos b(x-c) + d$

amp. S.A

1 a) min = −5
max = 3

S.A (midline) $\Rightarrow \frac{-5+3}{2} = \frac{-2}{2} = -1$ (d)

amplitude ⇒ 4 (a)

period ⇒ 180°

period = $\frac{360°}{b}$

$180 = \frac{360}{b}$ $b = 2$

Possible Equations for Cosine

$y = 4\cos 2(x-90) - 1$

or

$y = 4\cos 2(x+90) - 1$

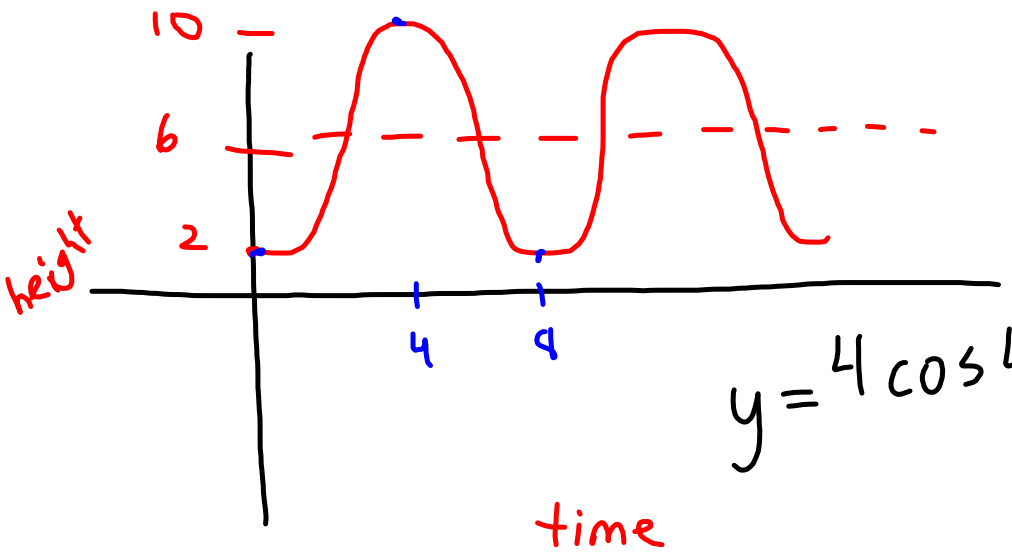
or

$y = -4\cos 2(x) - 1$

Possible Equations for sin x

$y = 4\sin 2(x-45) - 1$

2 a) 4 m blades = amplitude
axle 6m = midline
8 seconds = period



$y = 4\cos 45(x-4)+6$

$\text{period} = \frac{360}{b}$

$8 = \frac{360}{b}$, $b = 45$

1b) $y = 6\cos 3(x - 135) + 3$

any max

$y = 6\sin 3(x - 225) + 3$

any point on midline

or

$y = -6\sin 3(x - 45^\circ) + 3$