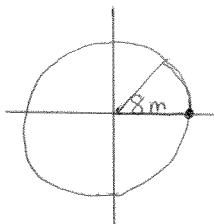


1. Complete the following table of properties for the graphs of $y = \sin x$ and $y = \cos x$.

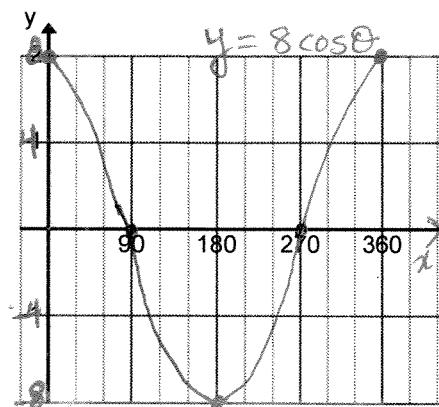
Property	$y = \sin x$	$y = \cos x$
Maximum Value	1	1
Minimum Value	-1	-1
Amplitude	1	1
Domain	$\{x \in \mathbb{R}\}$	$\{x \in \mathbb{R}\}$
Range	$\{y \in \mathbb{R} \mid -1 \leq y \leq 1\}$	$\{y \in \mathbb{R} \mid -1 \leq y \leq 1\}$
x-intercepts (in first cycle)	$0^\circ, 180^\circ, 360^\circ$	$90^\circ, 270^\circ$
y-intercepts (in first cycle)	0	1
Intervals of increase (over one cycle)	$\{0^\circ < x < 90^\circ\},$ $\{270^\circ < x < 360^\circ\}$	$\{180^\circ < x < 360^\circ\}$
Intervals of decrease (over one cycle)	$\{90^\circ < x < 270^\circ\}$	$\{0^\circ < x < 180^\circ\}$

2.



a) horizontal displacement is x -values from the unit circle
 $\cos\theta = \frac{x}{r}$ (only now, $r=8$)

$x = r\cos\theta$	$r\cos\theta (8\cos\theta)$
angle in degrees	
0°	$8\cos 0^\circ = 8$
90°	$8\cos 90^\circ = 0$
180°	$8\cos 180^\circ = -8$
270°	0
360°	8



b) vertical displacement
is the y -values from
the unit circle. (only now,
 $r=8$)

$y = r\sin\theta$	$r\sin\theta (8\sin\theta)$
angle (in degrees)	
0°	$8\sin 0^\circ = 0$
90°	$8\sin 90^\circ = 8$
180°	$8\sin 180^\circ = 0$
270°	$8\sin 270^\circ = -8$
360°	$8\sin 360^\circ = 0$

