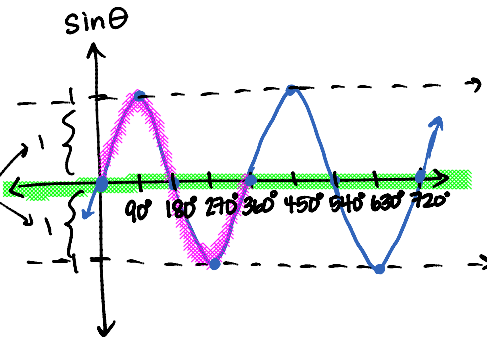
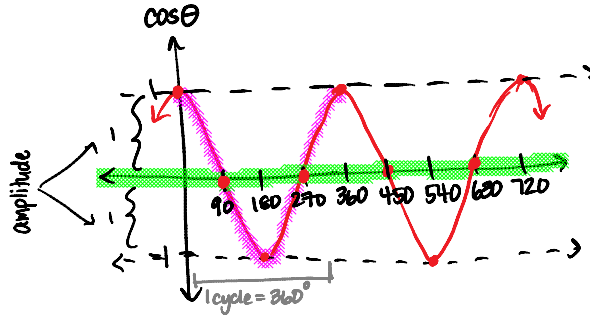


θ	$y = \sin \theta$	$y = \cos \theta$
0°	0	1
90°	1	0
180°	0	-1
270°	-1	0
360°	0	1
450°	1	0
540°	0	-1
630°	-1	0
720°	0	1
\vdots		



sinusoidal axis: $y = 0$
 amplitude: 1
 period: 360°
 frequency: $\frac{1}{360}$

$y = \cos \theta$



sinusoidal axis: $y = 0$
 amplitude: 1
 period: 360°
 frequency: $\frac{1}{360}$

sinusoidal axis: a horizontal line at the center of the graph

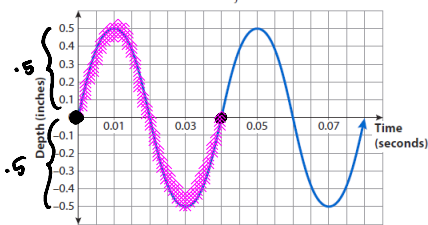
amplitude: distance from the sinusoidal axis to the max/min height (always positive)

cycle: part of the graph that repeats

period: # of degrees completed in 1 cycle.

EX 1

A graph of the motion of the bit on the end of a jackhammer is shown.



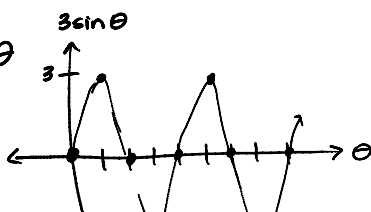
amplitude = .5 inches
 period = .04 seconds
 frequency = $\frac{1}{.04} = 25$ cycles/second

Find (a) the amplitude, (b) the period, and (c) the frequency of the motion.

Directions: Graph 2 periods of each graph below:

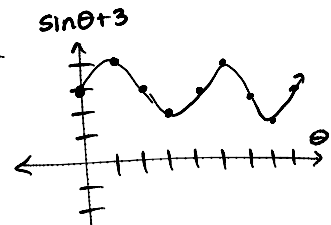
② $y = 3\sin \theta$

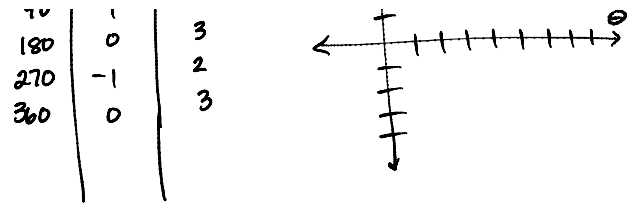
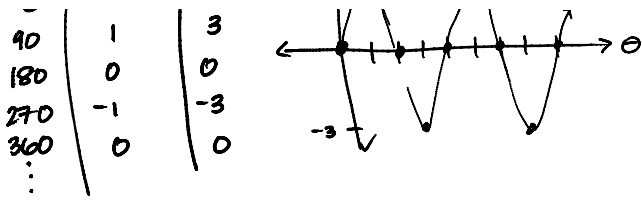
θ	$\sin \theta$	$3\sin \theta$
0	0	0
90	1	3
180	0	0
\vdots	\vdots	\vdots



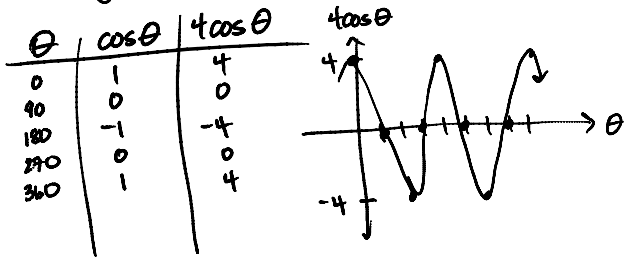
③ $y = \sin \theta + 3$

θ	$\sin \theta$	$\sin \theta + 3$
0	0	3
90	1	4
180	0	3
270	-1	2
\vdots	\vdots	\vdots

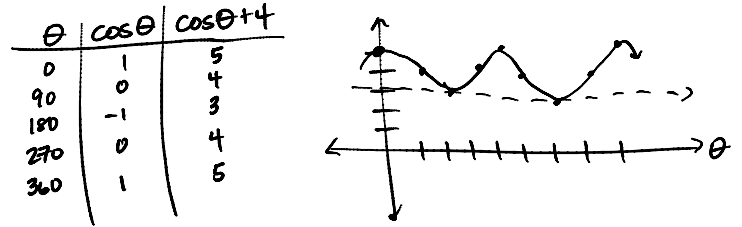




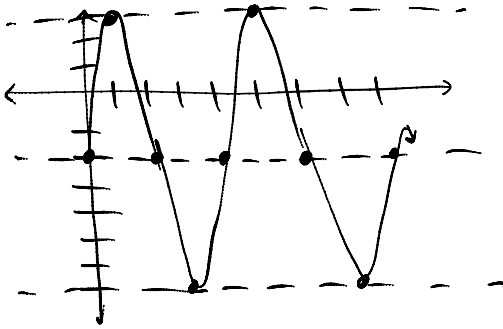
④ $y = 4 \cos \theta$



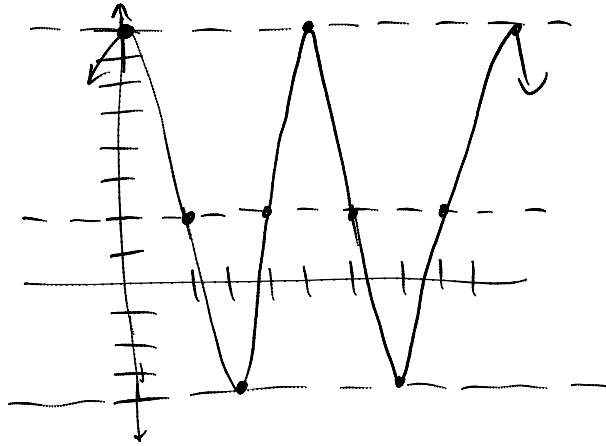
⑤ $y = \cos \theta + 4$



⑥ $y = 5 \sin \theta - 2$



⑦ $y = 6 \cos \theta + 2$



⑧ $y = -3 \sin \theta - 1$