

1. Find all possible solutions between 0 and 360 degrees (answer in degrees):

a)  $\sin(\theta) = \frac{1}{2}$

\_\_\_\_\_

b)  $2\cos(\theta) + 1 = 0$

\_\_\_\_\_

c)  $\tan(2\theta) = 1$

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2. Simplify  $-\sin(-\theta)\sec(-\theta)$  to one term with no negative thetas.

Show every step to get full credit!

3. A Ferris wheel with a diameter of 100 feet completes one rotation in 4 minutes. A passenger boards the Ferris wheel at time  $t = 0$ , in minutes, at ground level.

a) Fill in the table below:

Time, $t$	0	1	2	3	4	5	6	7	8	9
Height, $H(t)$										

Find the Period, Midline and Amplitude and include units.

b) Period

c) Midline

d) Amplitude

