

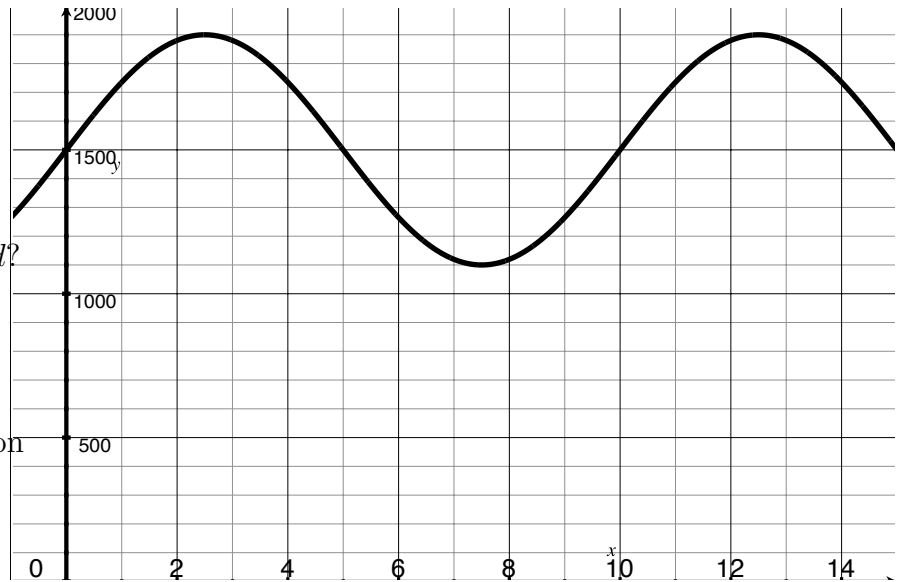
Quiz 4

Show *all* your work. Reasonable supporting work must be shown for any partial credit.

1. [3] Given that $\cos(\theta) = \frac{3}{4}$ and $-\frac{\pi}{2} \leq \theta \leq 0$, find $\sin(\theta)$.

2. The number of deer d in a region is modeled by the graph below where x is measured in years and $x = 0$ represents 2010.

- (a) [1] Approximate the population in 2020
- (b) [1] What is the approximate range of d ?
- (c) [1] Approximate what year the deer population is at its lowest.



- (d) [2] Describe either:
- the graph transformations needed to transform the basic sine graph into the graph of $d(x)$, or
 - the amplitude, period, and phase shift of the graph of $d(x)$
- (e) [2] Find an algebraic rule for the function d . (Note there are *many* correct answers for this!!)