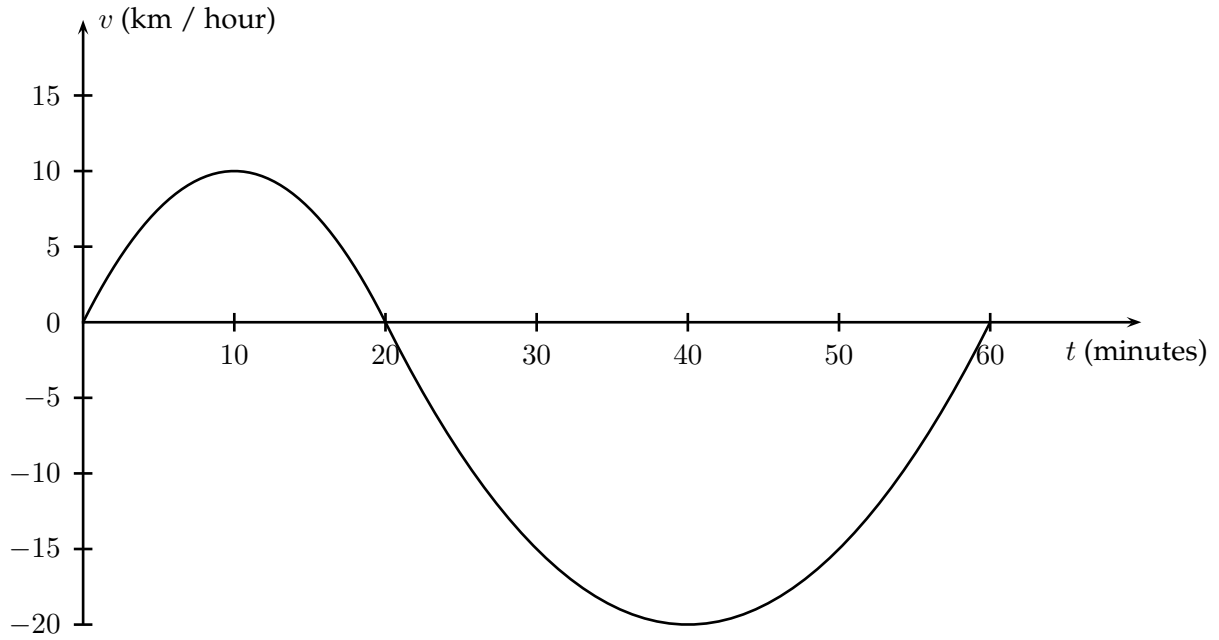


9. A bicyclist is pedaling along a straight road for one hour with a velocity v shown in the figure below. She starts out five kilometers from a lake; positive velocities take her toward the lake.



- (a) (2 points) Does the cyclist ever turn around? If so, at what time(s)?
- (b) (3 points) When is she going the fastest? How fast is she going then? Is she going toward or away from the lake?
- (c) (3 points) When is she closest to the lake? Approximately how close to the lake does she get?
- (d) (3 points) When is she farthest from the lake? Approximately how far from the lake is she then?