Q1: Bo takes off after a squirrel and runs along a straight path for 7 minutes while his secret service agent sits on a bench. He starts off next to the agent. Negative velocities take him away from the agent and positive velocities take him towards the agent.

A. Approximately how far does Bo run during the first minute?
   \[\approx 280 \text{ m} \text{ acceptable: } 260 - 300 \text{ m}\]

B. Does Bo ever turn around? If so, at what time(s)?
   \[\text{yes at } t = 4 \text{ min}\]

C. At what time is he going the fastest and what is his speed?
   \[400 \text{ m/min at } \approx t = 1.8 \text{ min acceptable: } 1.6 - 2\]

D. When is Bo the farthest from the agent and what is the approximate distance between them?
   \[\text{at } t = 4 \approx 1150 \text{ m} \text{ acceptable: } 1100 - 1200\]

E. Set up the integration used to find Bo's average velocity during the 7 minute interval.
   \[
   \frac{1}{t} \int_0^7 v(t) \, dt
   \]

F. (Circle (see question E)) Bo's average velocity (in meters/sec) is approximately
   1. -100  \hspace{1cm} 2. -120  \hspace{1cm} 3. -160  \hspace{1cm} 4. -200

G. Set up the integration used to find the total area bounded by \(v(t)\) and the horizontal axis. What does this area represent?
   \[\int_0^7 v(t) \, dt + \int_4^7 v(t) \, dt\]
   \[\approx 1150 + 300 \approx 1450\]
   This area represents the total distance Bo ran.
Q1: Bo takes off after a squirrel and runs along a straight path for 7 minutes while his secret service agent sits on a bench. He starts off next to the agent. Negative velocities take him away from the agent and positive velocities take him towards the agent.

A. Approximately how far does Bo run during the first minute?

___________________________________________

B. Does Bo ever turn around? If so, at what time(s)?

__________________________________________

C. At what time is he going the fastest and what is his speed?

__________________________________________

D. When is Bo the farthest from the agent and what is the approximate distance between them?

__________________________________________

E. Set up the integration used to find Bo's average velocity during the 7 minute interval.

Set up only:

F. (Circle (see question E)) Bo's average velocity (in meters/sec) is approximately

1. -100  2. -120  3. -160  4. -200

G. Set up the integration used to find the total area bounded by \( v(t) \) and the horizontal axis. What does this area represent?

Set up:

This area represents ________________________________________________________________