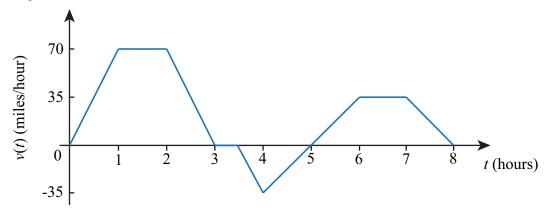
## Fundamental Theorem of Calculus I

The following graph shows the velocity of our friend Matt over an eight hour drive. Positive velocity indicates that the car is traveling north. After driving for one hour, Matt was 80 miles away from his house.



- 1. Find the velocity of the car after 30 mins.
- 6. Which time intervals did he deccelerate?
- 2. After 2 hrs how far was Matt from his home?
- 7. Find the distance covered by Matt while he was driving South.
- 3. How far was Matt from his home at t = 0?
- 8. How far was Matt from his home after 6 hrs?
- 4. When and for how long did Matt stop driving?
- 9. Find the distance covered by Matt in the last hour.
- 5. How far did Matt drive before taking a break?
- 10. Estimate  $\int_0^8 |v(t)| dt$ .

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