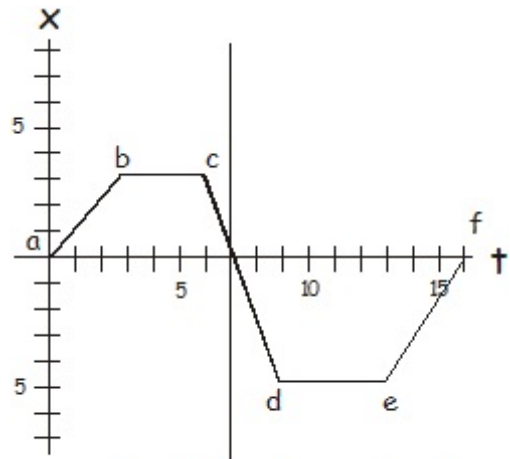


Name: _____

1. Give an example of two cars that have the same speed but different velocities.
2. You are driving down the road at a constant velocity. What are 3 ways you could safely change your velocity?
3. The speed of sound is 344 m/s. You see a flash of lightning and then hear the thunder 1.5 seconds later. How far away from the lightning strike are you?
4. A train travels from Denver to Bougainvillea in 5 hours and 37 minutes. If the average speed for the train was 76.5 km/h, how much distance did it cover?
5. You travel down the highway, starting from rest. You travel for 2.0 h at a speed of 105 km/h. Then you stop and eat your lunch for 30.0 min. Then you travel for 1.5 h at 75 km h. Make a distance vs time graph of this motion.

6. A car travels along a straight section of road. A distance vs time graph illustrating its motion is graphed to the right.

- Indicate every time t for which the car is at rest.
- During which interval is the car moving the fastest?
- How much total time does the car spend moving in the "positive" direction? How much time does the car spend moving in the "negative" direction?



Position Time Graph

7. A race car accelerates from rest to a speed of 287 km/h in 6.8 seconds. What is its average acceleration?
8. The space shuttle undergoes an acceleration of 53.9 m/s^2 . How fast is it traveling at the end of 55.2 s?
9. You are in an elevator that is accelerating you upward at 4.55 m/s^2 . How much time does it take you to reach a speed of 11.0 m/s?
10. A car traveling in a straight line has a velocity of +5.0 m/s at some instant. After 4.0 s, its velocity is +8.0 m/s. What is its average acceleration during this time interval?