

Position, Velocity, Acceleration Study Guide

1. What is displacement?
2. What is acceleration? (A change in...)
3. What does a positive velocity mean?
4. What does a negative velocity mean?
5. What does a positive acceleration mean?
6. What does a negative acceleration mean?
7. I run 40 meters in 5 seconds. What is my velocity?
8. I drive my car -800 meters in 100 seconds. What is my velocity?
9. My dog runs at 10 m/s for 6 seconds. How far has she gone?
10. I drive for 30 seconds at 5 m/s. How far have I driven?
11. A boat goes 1000 meters at 20 m/s. How long does this take?

12. I run for 70 meters at 10 m/s. How long does this take?

13. A train starts at 10 m/s and accelerates to 90 m/s in 5 seconds. What is its acceleration?

14. I start from rest and accelerate to 24 m/s in 6 seconds. What is my acceleration?

15. A jaguar is running at 10 m/s and accelerates at 3 m/s^2 for 3 seconds. What is its final velocity?

16. Sketch a POSITION vs time graph for the following:

I start at $x = 0$. I walk forwards for a bit, stop, walk back to where I started, stop, then walk backwards for a while.

17. Sketch a VELOCITY vs time graph for the following:

I'm on a train, which is stopped at first. The train goes in reverse for a few seconds, stops again, then goes forward at a constant speed. The train stops one more time, then goes at a fast constant speed.