

Name \_\_\_\_\_  
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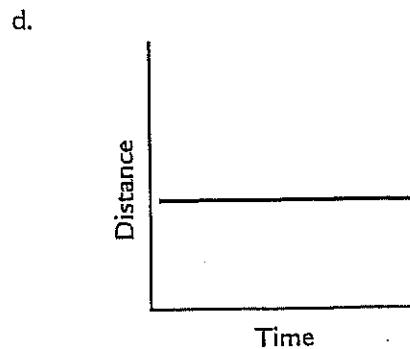
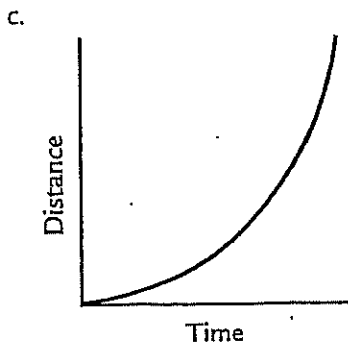
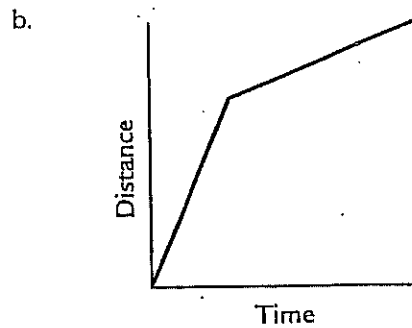
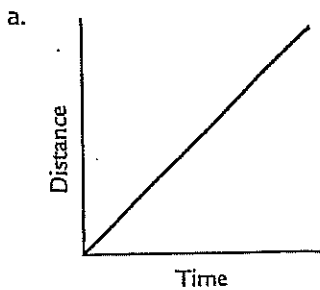
### Study Guide for Forces and Motion

1. What is a unit of measurement in that we have used to measure speed?

2. What is the formula to calculate speed?

2. An eagle flies 70 meters in 20 seconds. What is its speed?

3. A bus travels 6 blocks in 3 minutes at a constant speed. Which of the following graphs shows the bus's speed?



4. A flat horizontal line on a distance vs time motion graph shows \_\_\_\_\_

5. Draw distance vs time graph showing a line that would indicate a very fast increase in speed.

6. Recall when we did the lab with the cart and the steel cylinders. Which combination will have the greatest gravitational potential energy? Hint: you need to use words that involve mass and height.

7. What has the greater effect on kinetic energy of a moving object, doubling its mass or doubling its speed?

8. If there is no force acting on a moving object, it will \_\_\_\_\_  
\_\_\_\_\_

9. What does it take to change the direction or speed of an object?

10. Explain Newton's Three Laws in detail. (Write two sentences per law)

Newton's First Law:

Newton's Second Law:

Newton's Third Law:

11. The constraints of an engineering project describe the \_\_\_\_\_ of the design.

12. Define Potential energy

13. Define Kinetic energy

14. Define Friction

15. Define Inertia

16. Define Balanced Forces

17. Define Unbalanced Forces

18. Define Force

19. What is an engineer? (Hint: Use the Glossary)

