Name: _____ Unit II
Mr. Willis Motion (Velocity/Acceleration)
Conceptual Physics: _____ Need extra help?
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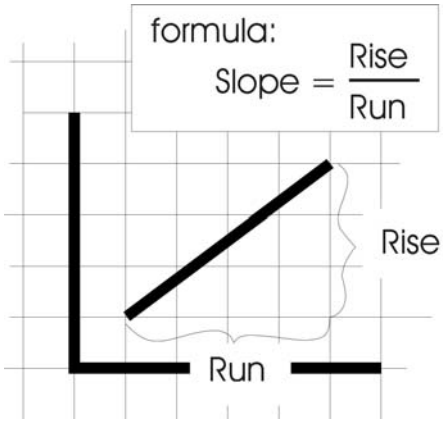
II

Distance-Time Graphing Activity



Objective: To understand how to read distance-time graphs.

Key Concept: Velocity is the slope of the distance-time graph.

Background: The slope of a line is how steep the curve is.

Example: Find the slope of the line between 1 and 2 hours.
Slope = _____
Find the speed of the object depicted by this graph.
Speed = _____

Directions: Examine the six graphs to answer the questions. Give units with all numbers.

1. The horizontal axis is time for all six graphs. Sometimes time is measured in seconds and also _____.

2. The vertical axis is distance for all six graphs. What are the two different units for distance for the different graphs?

_____ _____
_____ _____

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Graph A.

3. What is the slope of this line? _____
4. This graph shows the distance traveled during 20 seconds. What is the total distance traveled after twenty seconds? _____ (Hint: look at the vertical axis.)
5. What is the distance traveled after just five seconds? _____

Graph B.

6. What is the total distance traveled? _____
7. The plateau on the graph shows that the object is no longer moving. At what time does the object stop moving? _____
8. What is the slope of the line between zero and five seconds? _____
9. Since slope is distance over time, what are the units for the slope of this line? _____

Graph C.

10. What is the total distance traveled? _____
11. Find the slope of the line between zero and ten seconds. _____
12. The slope of the line for these graphs is the same as the velocity or speed of the moving object. What is the speed between zero and ten seconds? _____
13. What is the speed after ten seconds? _____

Graph D.

14. The slope of the line in Graph D shows an object that is moving. The slope of the line is the speed of the object. Find the speed of the object. _____
15. What is the total distance the object has traveled after four hours? _____
16. What is the distance traveled after only two hours? _____

Graph E.

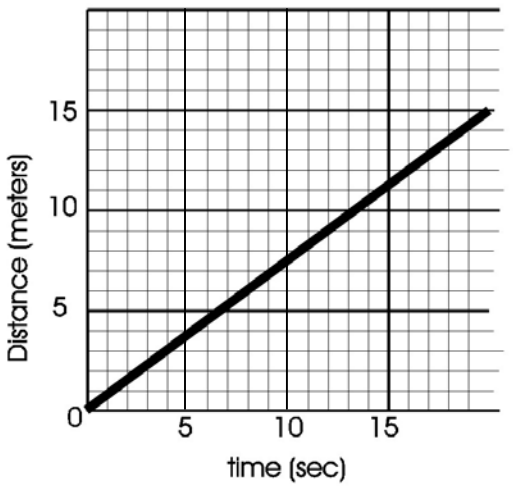
17. What is the distance after the first hour? _____
18. What is the speed of the object during the first hour? _____
19. What is the slope of the line during the first hour? _____
20. After two hours what is the distance traveled of the object? _____
21. What is the speed of the object between one and two hours? _____

Graph F.

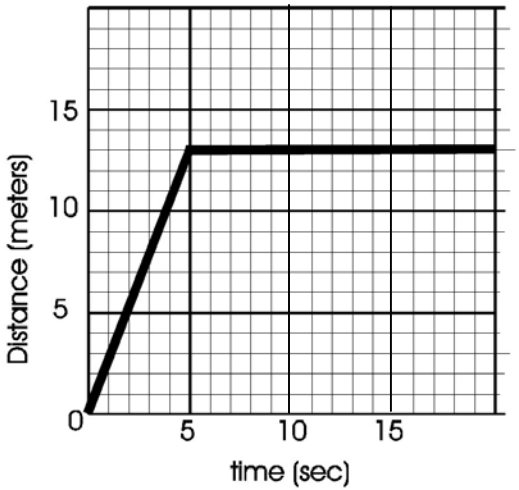
22. Find the speed of the object between zero and seven seconds. _____
23. Find the speed of the object between seven and twelve seconds. _____
24. What is the slope of the line after twelve seconds? _____
25. What is the total distance traveled after twelve seconds? _____

Distance - Time Graphs

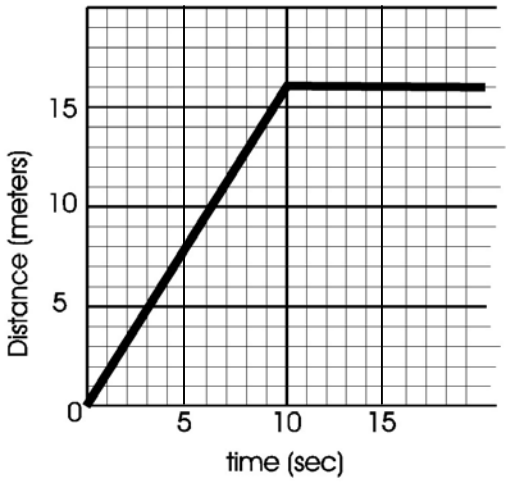
Graph A.



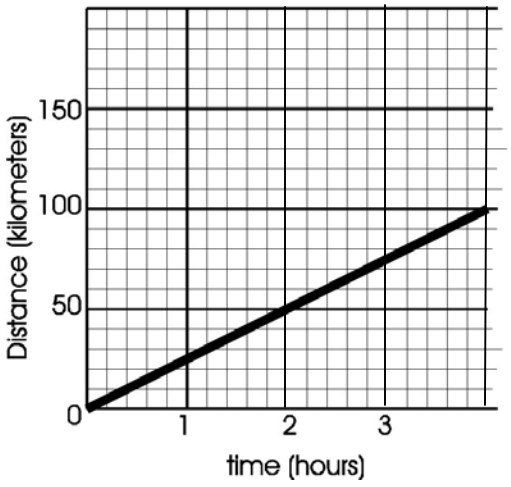
Graph B.



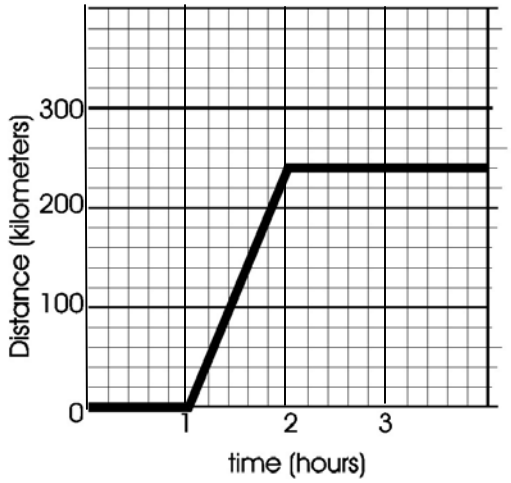
Graph C.



Graph D.



Graph E.



Graph F.