

Name \_\_\_\_\_

# Motion Test Review

1. Mike travelled the same distance walking, riding a bike, and driving a car. For each mode of travel, the table shows his average speed and the amount of time required to travel the distance.

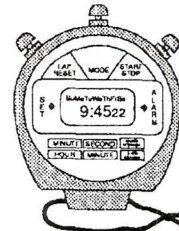
MODE	SPEED (kilometers per hour)	TIME (minutes)
walking	5	120
riding a bike	10	60
driving a car	60	10

As Mike's speed increased, how did the amount of time change?

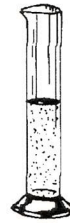
- 1) Time increased proportionally.
  - 2) Time decreased proportionally.
  - 3) Time increased randomly.
  - 4) Time decreased randomly.
2. A car travels at 84 kilometers per hour for 7 hours. How far did it travel?
- 1) 12 km
  - 2) 84 km
  - 3) 91 km
  - 4) 588 km
3. A car travels a distance of 98 meters in 10. seconds. What is the average speed of the car during this 10.-second interval?
- 1) 4.9 m/s
  - 2) 9.8 m/s
  - 3) 49 m/s
  - 4) 98 m/s

4. A moving body must undergo a change of

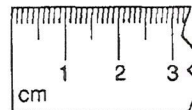
- 1) velocity
  - 2) acceleration
  - 3) position
  - 4) direction
5. An object moves a distance of 10 meters in 5 seconds. The average speed of the object is
- 1) 0.5 m/sec
  - 2) 2.0 m/sec
  - 3) 40 m/sec
  - 4) 50 m/sec
6. Which of the measuring devices shown below are most likely to be used to measure the speed of the water in a stream?



A



C



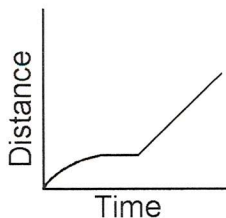
B



D

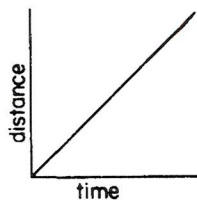
- 1) A and B, only
- 2) C and D, only
- 3) A, B, and D, only
- 4) A, B, C, and D

7. Anne traveled from her home to a friend's house. She constructed this graph to show the relationship between the time and the distance traveled.



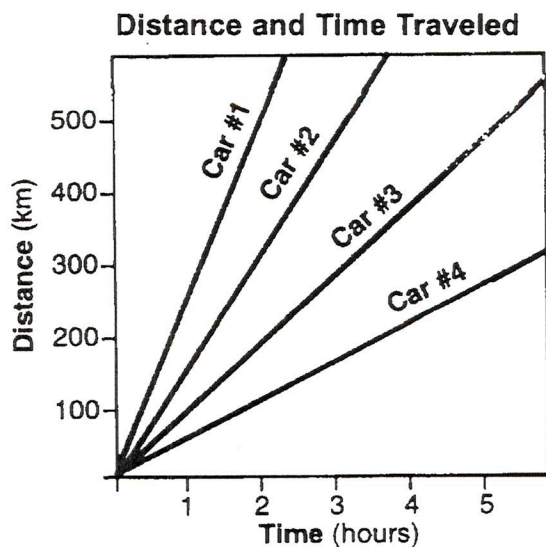
Which description is most consistent with the graph?

- 1) Anne started her trip on a country road. She stopped for lunch just before getting onto a superhighway for the rest of her trip.
  - 2) Anne drove briefly on a superhighway, then on a country road, and finished her trip on a superhighway.
  - 3) Anne started her trip on a superhighway. She stopped for lunch just before getting onto a country road for the rest of her trip.
  - 4) Anne drove briefly on a country road, then on a superhighway, and finished her trip on a country road.
8. The graph at the right represents the motion of a body that is moving with



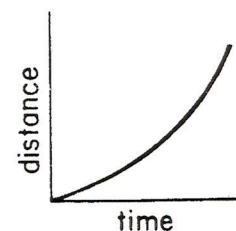
- 1) increasing acceleration
- 2) decreasing acceleration
- 3) increasing speed
- 4) constant speed

9. The graph below shows the distance and time traveled by four cars.



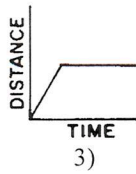
Which car traveled the slowest?

- 1) Car #1
  - 2) Car #2
  - 3) Car #3
  - 4) Car #4
10. The graph at the right represents the relationship between distance and time for an object moving in a straight line. According to the graph, the object is



- 1) motionless
- 2) moving at a constant speed
- 3) decelerating
- 4) accelerating

11. Which graph represents an object that is moving at a constant speed for the entire time interval?



12. The average velocity of an object can be determined by the formula

1)  $\frac{\text{distance} \times \text{time}}{\text{change in time}}$

3)  $\frac{\text{acceleration}}{\text{change in time}}$

2)  $\frac{\text{change in distance}}{\text{change in time}}$

4)  $\frac{\text{change in time}}{\text{change in distance}}$

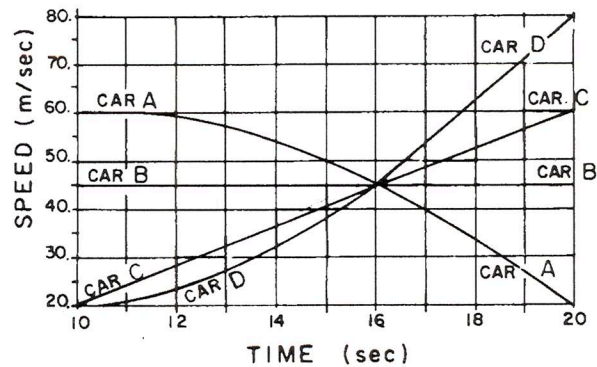
13. A group of bike riders took a 4.0-hour trip. During the first 3.0 hours, they traveled a total of 50. kilometers, but during the last hour they traveled only 10. kilometers. What was the group's average speed for the entire trip?

- 1) 15 km/hr
- 2) 30. km/hr
- 3) 40. km/hr
- 4) 60. km/hr

14. What is the distance traveled by an object that moves with an average speed of 6.0 meters per second for 8.0 seconds?

- 1) 0.75 m
- 2) 1.3 m
- 3) 14 m
- 4) 48 m

Base your answers to questions 15 through 17 on the accompanying graph which represents the motions of four cars on a straight road.



15. The speed of car C at t = 20 seconds is closest to

- 1) 60 m/sec
- 2) 45 m/sec
- 3) 3.0 m/sec
- 4) 600 m/sec

16. Which car has zero acceleration?

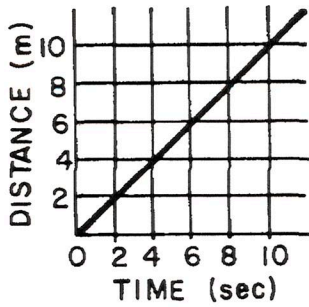
- 1) A
- 2) B
- 3) C
- 4) D

17. Which car is decelerating?

- 1) A
- 2) B
- 3) C
- 4) D

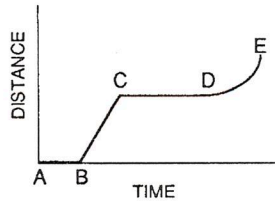
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18. The graph below shows the distance traveled by an object plotted against time.



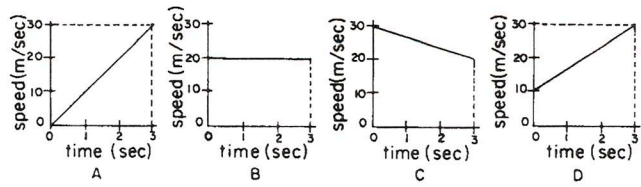
What is the distance covered by the object between the 2nd and 6th second?

- 1) 8 m
  - 2) 2 m
  - 3) 6 m
  - 4) 4 m
19. The graph at the right represents the relationship between distance and time for an object in motion. During which interval is the speed of the object changing?



- 1) *AB*
- 2) *BC*
- 3) *CD*
- 4) *DE*

Base your answers to questions 20 through 22 on the four graphs below which represent the relationship between speed and time of four different objects *A*, *B*, *C*, and *D*.



20. Which object was neither accelerating nor decelerating?

- 1) *A*
- 2) *B*
- 3) *C*
- 4) *D*

21. Which object had the greatest acceleration?

- 1) *A*
- 2) *B*
- 3) *C*
- 4) *D*

22. Compared with the average velocity of object *A*, the average velocity of object *D* is

- 1) less
- 2) greater
- 3) the same

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Answer Key  
[New Exam]

1.   2  

2.   4  

3.   2  

4.   3  

5.   2  

6.   1  

7.   1  

8.   4  

9.   4  

10.   4  

11.   4  

12.   2  

13.   1  

14.   4  

15.   1  

16.   2  

17.   1  

18.   4  

19.   4  

20.   2  

21.   1  

22.   2  

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