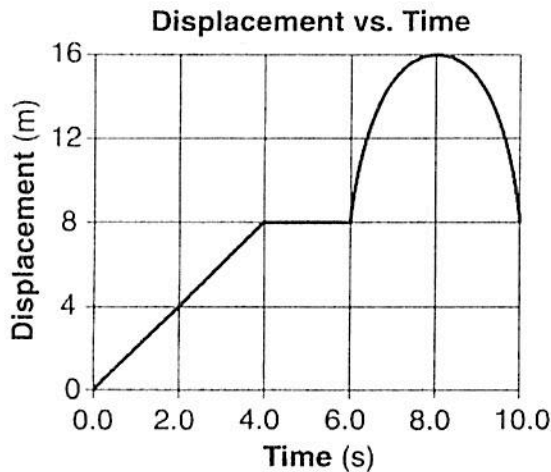
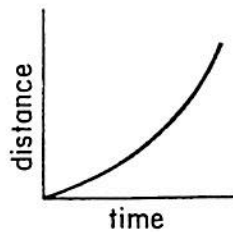


13. The graph below represents the displacement of an object moving in a straight line as a function of time.



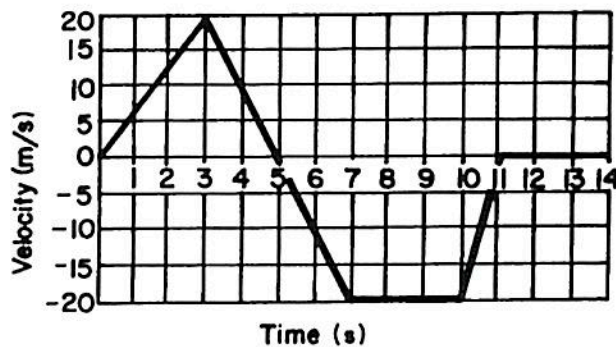
What was the total distance traveled by the object during the 10.0-second time interval?

- 1) 0 m 3) 16 m
 2) 8 m 4) 24 m
14. 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



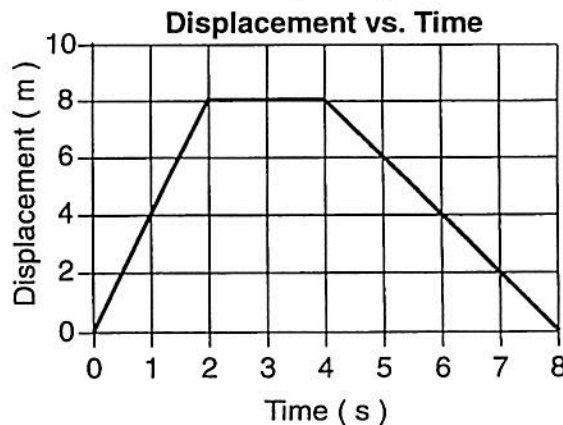
- 1) motionless
 2) moving at a constant speed
 3) decelerating
 4) accelerating

Base your answers to questions 15 through 17 on the graph below which represents the relationship between velocity and time for a 2.0-kilogram cart that is initially at rest and starts moving northward.



15. What is the acceleration of the cart at $t = 8$ seconds?
 1) 0 m/s^2 3) 20 m/s^2
 2) 10 m/s^2 4) -20 m/s^2
16. In which direction is the cart traveling at $t = 4$ seconds?
 1) north 3) south
 2) east 4) west
17. At which value of t will the cart be back at the starting point?
 1) $t = 2.5 \text{ s}$ 3) $t = 3 \text{ s}$
 2) $t = 8.5 \text{ s}$ 4) $t = 5 \text{ s}$

Base your answers to questions 18 and 19 on the graph below, which represents the relationship between the displacement of an object and its time of travel along a straight line.



18. What is the magnitude of the object's total displacement after 8.0 seconds?
 1) 0 m 3) 8 m
 2) 2 m 4) 16 m

19. What is the average speed of the object during the first 4.0 seconds?

- 1) 0 m/s
- 2) 2 m/s

- 3) 8 m/s
- 4) 4 m/s

20. A ball is thrown horizontally from the top of a building with an initial velocity of 15 meters per second. At the same instant, a second ball is dropped from the top of the building. The two balls have the same

- 1) path as they fall
- 2) final velocity as they reach the ground
- 3) initial horizontal velocity
- 4) initial vertical velocity

Answer Key
[New Exam]

1. 4

2. 3

3. 3

4. 2

5. 2

6. 4

7. 2

8. 2

9. 2

10. 2

11. 3

12. 4

13. 4

14. 4

15. 1

16. 1

17. 2

18. 1

19. 2

20. 4
