

Practice Physics Final Exam – Standards 1-7

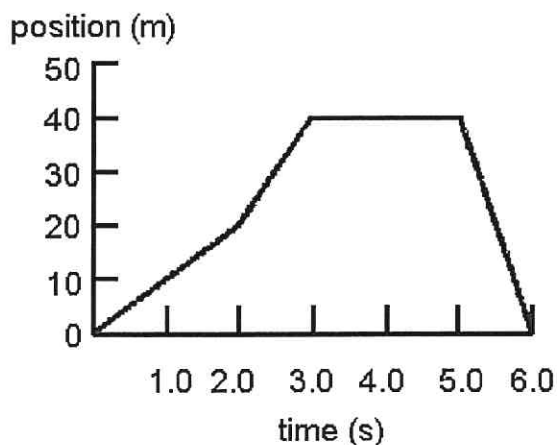


FIGURE 2-1

- 1) In Fig. 2-1, what is the velocity at $t = 5.5$ s? 1) _____
 - A. 0
 - B. 20 m/s
 - C. -40 m/s
 - D. 10 m/s

- 2) In Fig. 2-1, what is the velocity at $t = 1.0$ s? 2) _____
 - F. 20 m/s
 - G. 10 m/s
 - H. 0
 - J. -40 m/s

- 3) If the position versus time graph of an object is a horizontal line, the object is 3) _____
 - A. moving with constant non-zero acceleration.
 - B. moving with infinite speed.
 - C. moving with constant non-zero speed.
 - D. at rest.

- 4) How many meters is seventy kilometers? (1000 meters = 1 km) 4) _____
 - F. 70,000 m
 - G. 0.07 m
 - H. 700,000 m
 - J. 70 m

- 5) What must be your average speed in order to travel 350 km in 5.15 h? 5) _____
 - A. 66.0 km/h
 - B. 67.0 km/h
 - C. 69.0 km/h
 - D. 68.0 km/h

- 6) A new car manufacturer advertises that their car can go "from zero to sixty in 8 s". This is a description of _____
- F. instantaneous speed.
 - G. average speed.
 - H. instantaneous acceleration.
 - J. average acceleration.
- 7) If you are 5'10" tall, what is your height in meters? (1 in = 2.54 cm.) _____
- A. 1.5 m
 - B. 1.6 m
 - C. 1.7 m
 - D. 1.8 m
- 8) A rectangle is 3.25 m long and 1.5 m wide. What is its area? _____
- F. 4.87 m^2
 - G. 4.9 m^2
 - H. 4.875 m^2
 - J. 4.80 m^2
- 9) A car travels 90 km/h. How long does it take for it to travel 400 km? _____
- A. 4.1 h
 - B. 4.2 h
 - C. 4.4 h
 - D. 4.3 h
- 10) A polar bear starts at the North Pole. It travels 1.0 km south, then 1.0 km east, then 1.0 km north, then 1.0 km west to return to its starting point. This trip takes 45 min. What was the bear's average speed? _____
- F. 4.5 km/h
 - G. 5.3 km/h
 - H. 0.09 km/h
 - J. 0 km/h
- 11) Suppose that an object is moving with a constant velocity. Make a statement concerning its acceleration. _____
- A. The acceleration must be equal to zero.
 - B. The acceleration must be a constant non-zero value.
 - C. The acceleration must be constantly increasing.
 - D. The acceleration must be constantly decreasing.

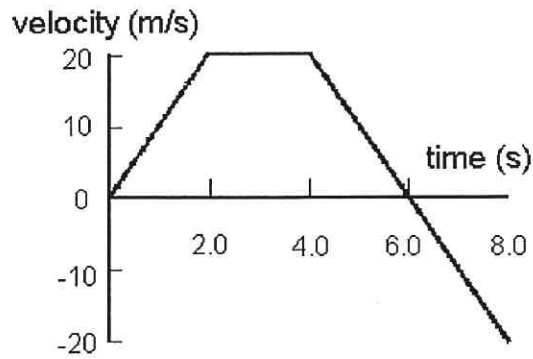


FIGURE 2-2

- 12) In Fig. 2-2, what is the displacement from 0 to 8.0 s? 12) _____
 F. 20 m
 G. 80 m
 H. 60 m
 J. 40 m
- 13) A polar bear starts at the North Pole. It travels 1.0 km south, then 1.0 km east, then 1.0 km north, then 1.0 km west to return to its starting point. This trip takes 45 min. What was the bear's average velocity? 13) _____
 A. 0.09 km/h
 B. 4.5 km/h
 C. 0 km/h
 D. 5.3 km/h
- 14) An object moves 12.0 m north and then 7.0 m south. Find both the distance traveled and the magnitude of the displacement vector. 14) _____
 F. 19.0 m, 5.0 m
 G. 5.0 m, 5.0 m
 H. 5.0 m, 19.0 m
 J. 19.0 m, 19.0 m
- 15) Starting from city A, a car drives 250 miles east to city B, then 300 miles north to city C, and finally 700 miles west to city D. What is the distance between city A and city D? 15) _____
 A. 500 mi
 B. 300 mi
 C. 400 mi
 D. 600 mi

16. A car travels at a **constant** velocity of -5 m/s for 35 seconds. It then comes to an instantaneous stop for 10 seconds. What is the final position of the car?

Express your final answer in meters. Show all of your work for full credit.

What do you know?	
What formula?	
Substitute in values	
Calculations	
Answer	

17. Based on the situation above, sketch a representation of the car's total motion on a position vs. time graph and a velocity vs. time graph.

