

Science 1206 Unit2 -Physics  
Test 04

1. The correct way to write 32 000 000 in scientific notation with 2 significant digits is:

- a.  $32.000\ 000 \times 10^6$
- b.  $3.2 \times 10^7$
- c.  $0.32 \times 10^8$
- d.  $3.2 \times 10^{-7}$

Answer: \_\_\_\_\_

2. How many significant figures are in the measurement of 0.0020010?

- a. 4
- b. 5
- c. 7
- d. 8

Answer: \_\_\_\_\_

3. The correct way to write 0.04760 in scientific notation is:

- a.  $4.760 \times 10^2$
- b.  $4.760 \times 10^{-2}$
- c.  $47.60 \times 10^2$
- d.  $4760 \times 10^{-5}$

Answer: \_\_\_\_\_

4. The answer with the correct number of significant figures for the equation below is:

$$2.34\text{ km} + 10.2\text{ km} + 1.234\text{ km} = \underline{\hspace{2cm}}$$

- a. 13.774 km
- b. 13.77 km
- c. 13.8 km
- d. 14 km

Answer: \_\_\_\_\_

5. The answer with the correct number of significant figures for the equation below is:

$$34.12\text{ m} \times 2.2\text{ m} = \underline{\hspace{2cm}}$$

- a. 75 m
- b. 75.06 m
- c. 75.064 m
- d. 75.067m

Answer: \_\_\_\_\_

6. What is the speed of a train which travels 550 km in 4.6 hours?

- a. 0.0084 km/h
- b. 119.5652 km/h
- c.  $1.2 \times 10^2$  km/h
- d. 2530 km/h

Answer: \_\_\_\_\_

7. How long would it take Ernest to walk 5.3 km to Western Pond, traveling at a speed of 1.2 km/h?

- a. 4.4 hours
- b. 4.5 hours
- c. 6.36 hours
- d. 6.4 hoursd

Answer: \_\_\_\_\_

8. How far is it to St. Johns if it takes you 3.250 hours to get there driving an average of 120.0 km/h?

- a. 0.02708 km
- b.  $3.9 \times 10^{-2}$  km
- c. 36.90 km
- d. 390.0 km

Answer: \_\_\_\_\_

9. Convert 10.59 m to kilometers.

- a. 0.000001059 km
- b. 0.01059 km
- c. 1059 km
- d. 10 590 km

Answer: \_\_\_\_\_

10. If you are travelling at 21.0 m/s, you are also travelling:

- a.  $2.301 \times 10^2$  m/s
- b. 1.26 km/h
- c. 75.6 km/h
- d. 5.83 km/h

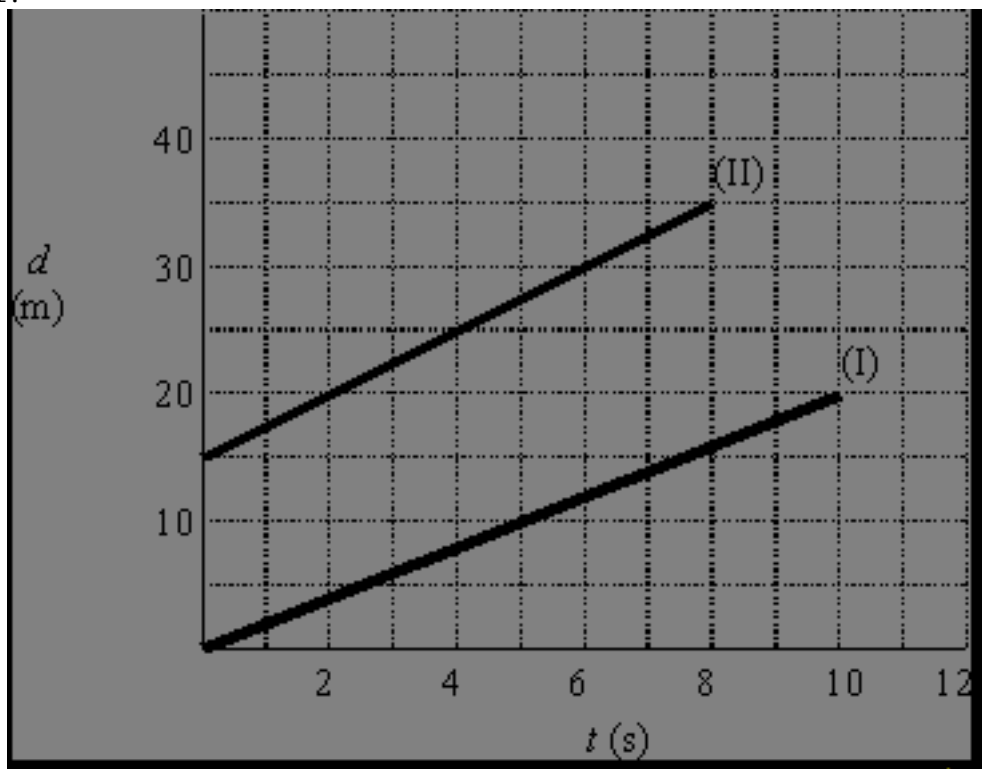
Answer: \_\_\_\_\_

11. If the slope of a line of a distance vs: time graph is zero, it means you are:

- a. moving at a constant speed
- b. speeding up
- c. slowing down
- d. not moving

Answer: \_\_\_\_\_

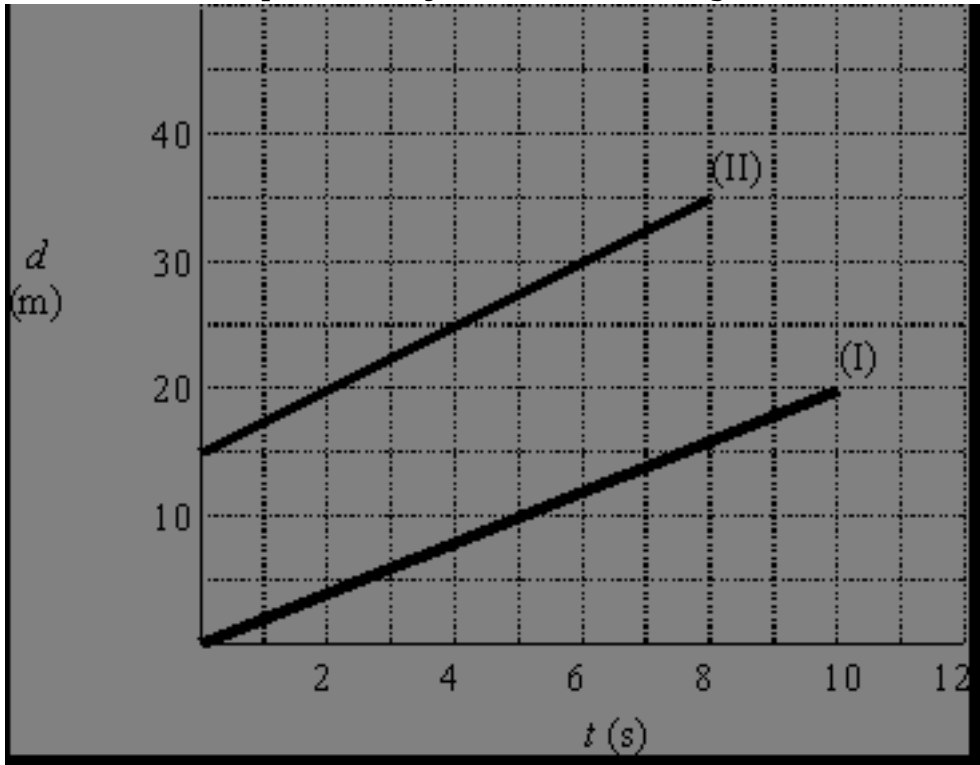
12. In the diagram below, how far did object II start ahead of object I?



- a. they started at the same point
- b. 15 m
- c. 20 m
- d. 35 m

Answer: \_\_\_\_\_

13. What is the speed of object II in the diagram below?



- a. 0.50 m/s
- b. 0.40 m/s
- c. 2.4 m/s
- d. 2.5 m/s

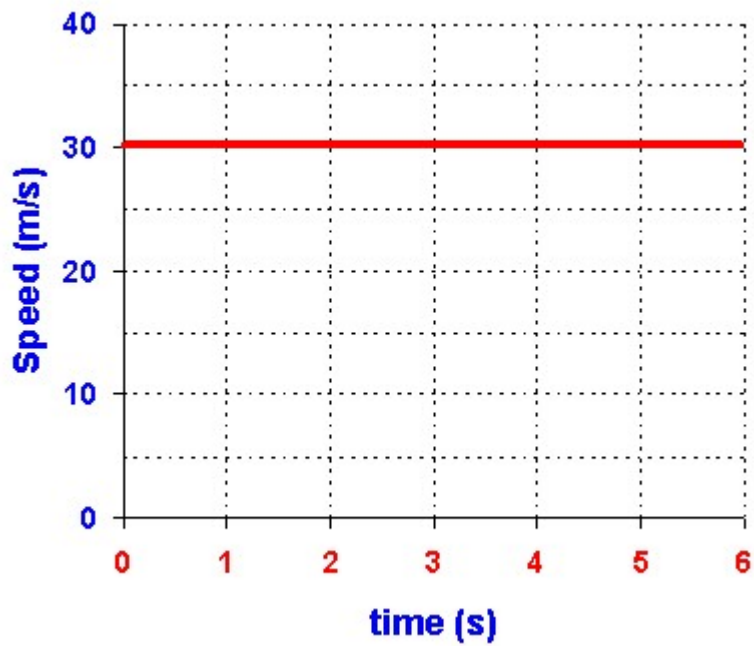
Answer: \_\_\_\_\_

14. Which is the best definition for instantaneous speed?

- a. the total distance covered over the total time measured
- b. the speed at which an object is travelling at a particular instant
- c. an object travelling at the same speed over a period of time.
- d. the rate of change in speed

Answer: \_\_\_\_\_

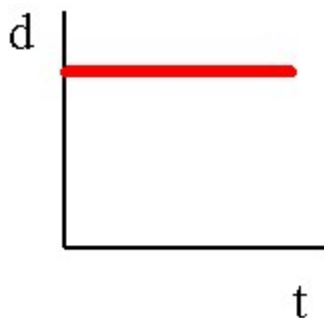
15. According to the v-t graph below how far does the object travel in the time period 3 s to 5 s.



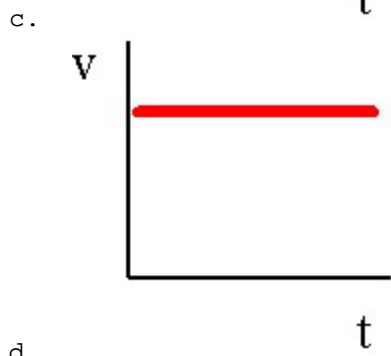
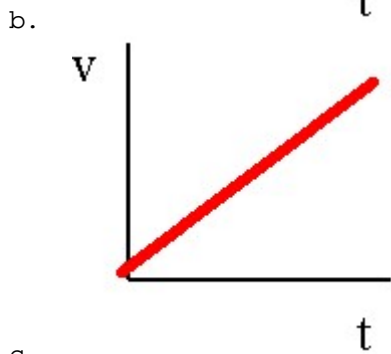
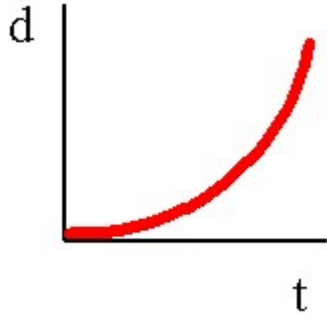
- a. 30 m
- b. 60 m
- c. 150 m
- d. 240 m

Answer: \_\_\_\_\_

16. Which graph best represents an object moving with uniform motion?



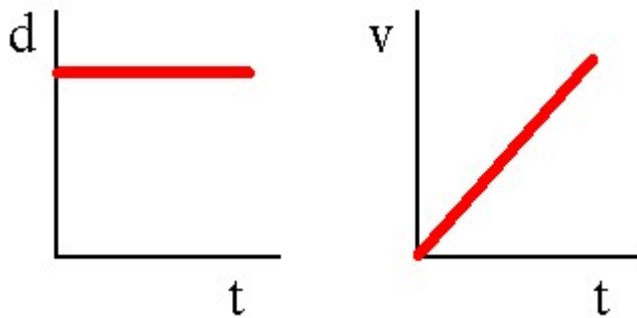
a.



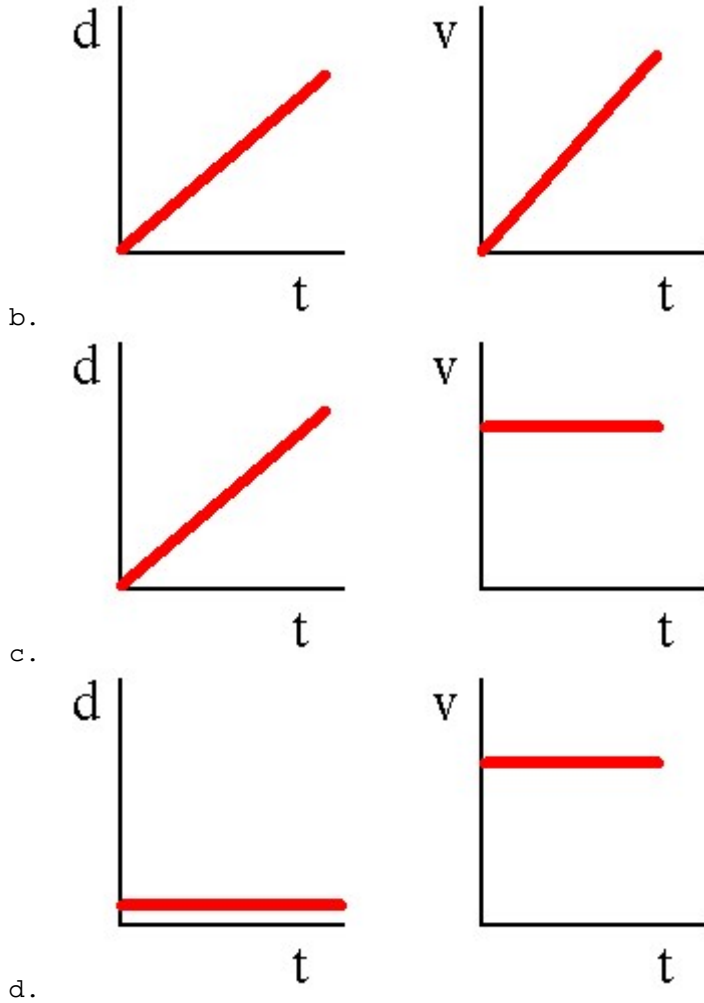
d.

Answer: \_\_\_\_\_

17. Which pair of  $d-t$  and  $v-t$  graphs describe the same moving object?



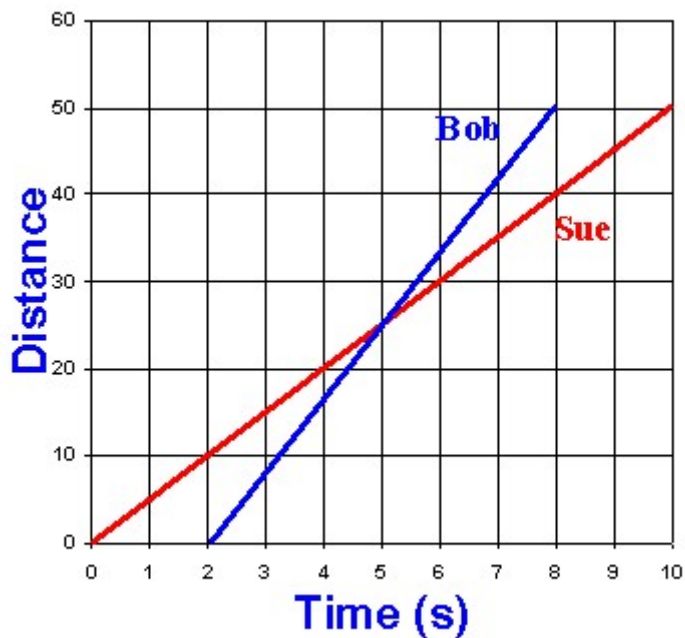
a.



Answer: \_\_\_\_\_

18. Bob and Sue see a patch of blueberries 50 m away. Sue decides to make a dash for the blueberries and 2 s later Bob begins to run. At

what point does Bob pass sue?



- a. 10 m
- b. 25 m
- c. 50 m
- d. never, sue gets there first.

Answer: \_\_\_\_\_

19. Sam, a Physics student, has been asked by his professor to measure the length of a section of road that is due to undergo some construction. Each time Sam measures the road he obtains a different result. Which of the following below best illustrates the type of error Sam has committed and how best to fix it?

- a. parallax, calibrate the device
- b. random error, calibrate the device
- c. random error, average the results
- d. systematic error, calibrate the device

Answer: \_\_\_\_\_

20. Jean leaves her house and travels 4.0 km [N]. She then turns and travels 6.0 km[S]. She decides then to turn around and travel 9.0 km [N]. What is Jean's final displacement?

- a. 1.0 km [S]
- b. 19.0 km[N]
- c. 7.0 km [N]
- d. 7.0 km [S]



Answer: \_\_\_\_\_

21. Mrs. Brown took her two dogs for a walk after school yesterday. The dogs love to chase each other but Abner can never catch Bubbles. Mrs. Brown wondered why, so she decided to record the distance traveled by Abner and Bubbles at 5 second intervals. Her data is displayed below:

Time (s)	0	5	10	15	20	25	30
Distance traveled by Bubbles (m)	0.0	3.2	6.7	10.1	13.2	16.7	19.8
Distance traveled by Abner (m)	0.0	2.4	5.2	7.4	9.9	12.6	15.5

{2} a. Plot the data for both dogs on the grid provided. (Be sure to include a title and label each axis)\_{2} b. From the graph, find the speed of each of the dog. (show workings){1} c. Why is it that Abner can never catch Bubbles? Support your answer with reference to the graph.

Pre-fill Answer:

Place your answers on the answer sheet you printed prior to this test.

Answer:

22. In the human body, blood travels faster in the largest blood vessel, the aorta, than in any other blood vessel. The average speed of blood in the aorta is 30 m/s. {2} a. How far does blood travel in the aorta in 0.20 s?{2} b. How long would it take your blood to travel 3 m?

Pre-fill Answer:

Place answers on the test sheet printed prior to this test. Show all workings!!!

Answer:

23. Henrietta runs three times around a circular track that is 220 m in circumference (around the track) in 5.2 minutes. {1} a. At the end of her run, what is her total distance travelled?{2} b. At the end of her run what was Henrietta's average speed, in m/s?

Pre-fill Answer:

Place answer on the answer sheet printed prior to this test. Show all workings!!

Answer:

24. Billy leaves his home and travels a distance of 6.0 km [W]. He then turns and travels 9.0 km [E]. If it took Billy, 3.0 hours to complete this trip, then answer the questions that follow: SHOW ALL WORKINGS!!!! a) Using scaled vector diagrams, determine Billy's displacement. b) What is Billy's average speed during the entire trip? c) What is Billy's velocity during the trip?

Pre-fill Answer:

Answer this question on the Answer sheet provided.

Answer:

25. Robert decides to take the temperature of the Humber river near his cabin. He takes several readings and determines the average temperature of the river to be 18.3 degrees celsius during the summer. The accepted value for the average temperature of the river during the summer as recorded by Environment Canada is reported to be 19.7 degrees celsius. What is Robert's percent discrepancy? Show All workings!!!

Pre-fill Answer:

Place your answer on the answer sheet provided.

Answer: