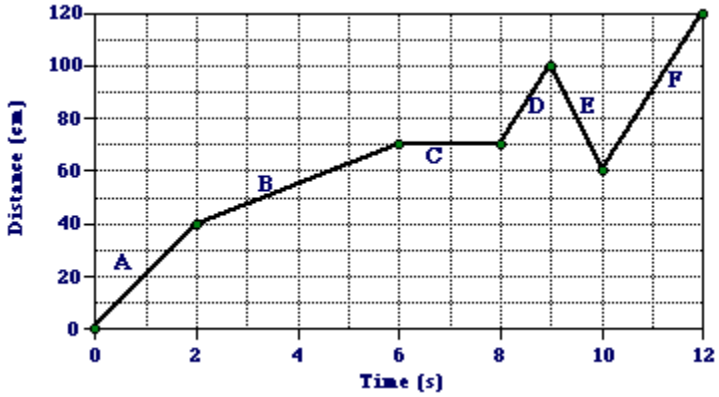
Name: _____ Practice Ph11 1-2

1. A(n) _____ model is a simplified version of a motion diagram that represents the object in motion by a series of single points.

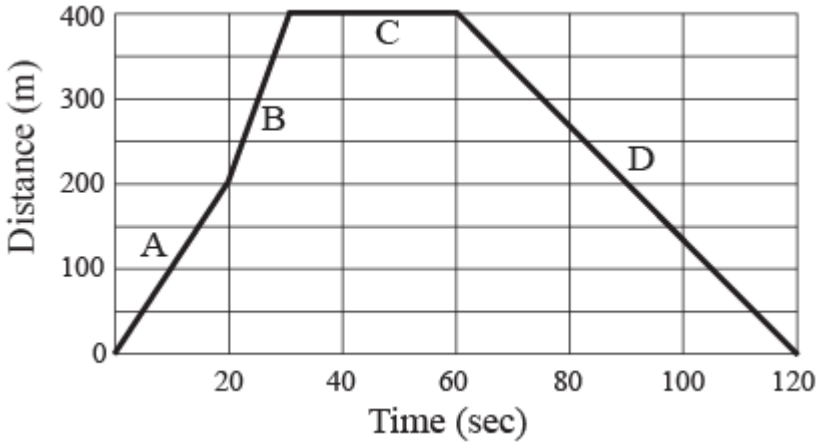
Use the following graph to answer the following 2 question(s).



2. What is the velocity of section A in **m/s**?

3. What is the velocity of section C in **m/s**?

The following is the graph of the motion of a moving object. Answer the next 3 questions about it.

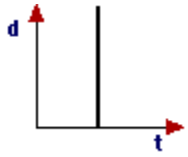


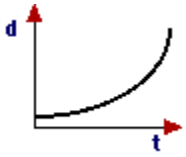
4. Calculate the velocity in section A.

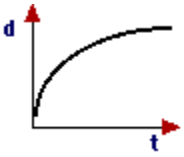
5. Find the average velocity for the first 60 sec.

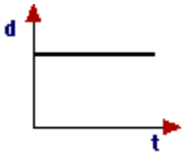
6. How far from the starting point is the object after 40 sec?

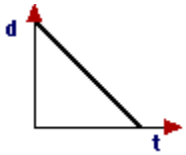
7. Which graph represents the motion of an object *decreasing* in velocity?

a) 

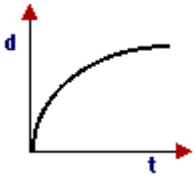
b) 

c) 

d) 

e) 

8. Look at the displacement - time graph shown below. What is happening to the velocity of the moving object? It is...

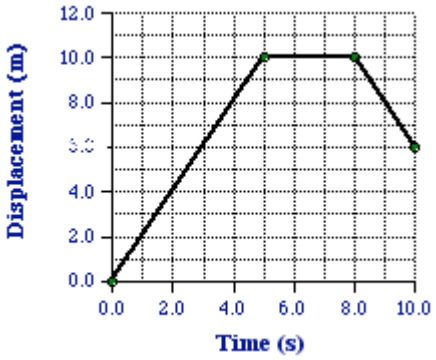


a) insufficient data
b) steady
c) increasing
d) decreasing

9. Which one of the following measurements from a graph can be used to estimate the **velocity** of an object?
   a) the slope of a velocity-time graph
   b) the area under a velocity-time graph
   c) the slope of a displacement-time graph
   d) the area under a displacement-time graph

Use the following information to answer the next 2 question(s).

The graph drawn below shows the velocity of a cart during a 10.0 second time interval.



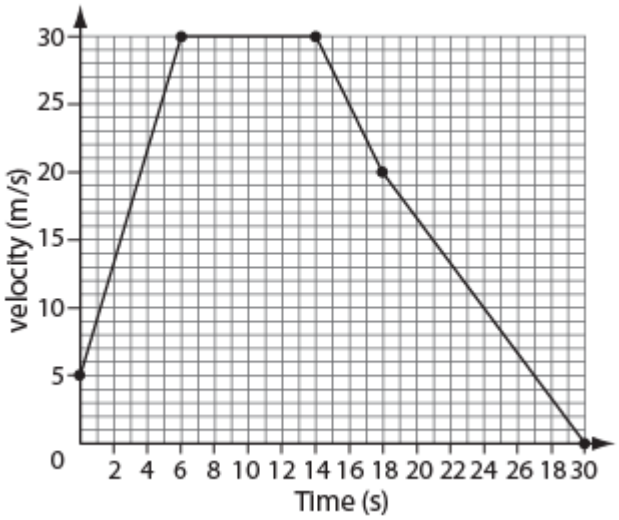
10. What is the velocity of the cart during the first 5.0 seconds?
    a) 6.0 m/s
    b) 0.50 m/s
    c) 2.0 m/s
    d) 3.0 m/s

11. What is the **average velocity** of the vehicle during the time interval t=1.0 s to t=6.0 s?
    a) 1.6 m/s
    b) 1.0 m/s
    c) 1.33 m/s
    d) 1.67 m/s
    e) 0.0 m/s

12. T F In a chosen coordinate system, the position of an object in motion can have negative values.

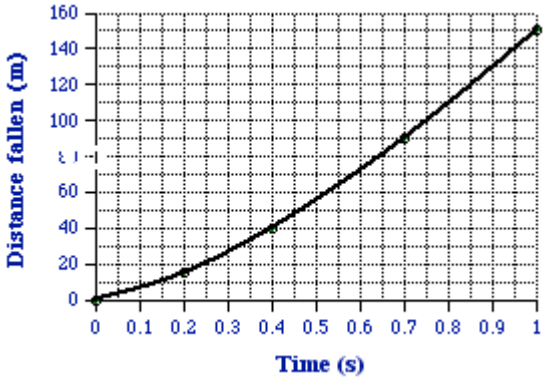
13. T F The position-time graph of an object moving with a constant average velocity is always a straight line.

14. The velocity-time graph of the motion of a particle is shown below. Calculate the total displacement of the particle from 0 to 30 seconds.

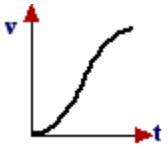


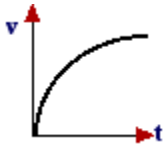
Use the following information to answer the next 1 question(s).

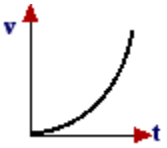
The graph below was drawn from data obtained when a styrofoam ball was dropped from rest.

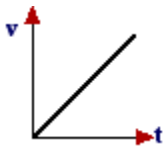


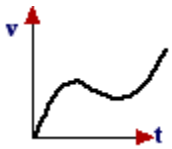
15. Of the following graphs, which one best represents the speed of the ball as a function of time?

a) 

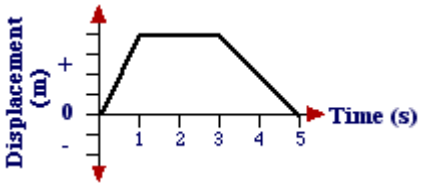
b) 

c) 

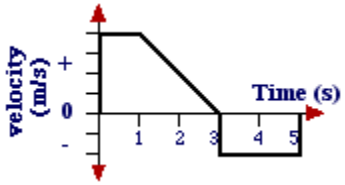
d) 

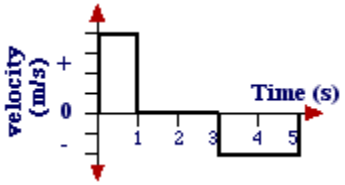
e) 

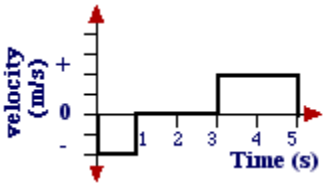
16. The following graph represents a displacement-time graph for an object during a 5 s time interval.

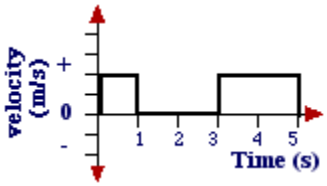


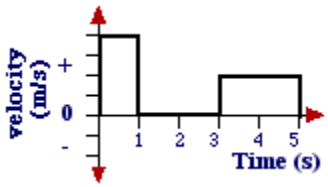
Which one of the following graphs of velocity versus time would best represent the velocity of the object during the same time interval?

a) 

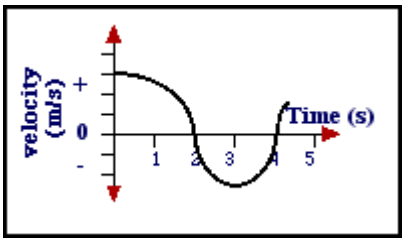
b) 

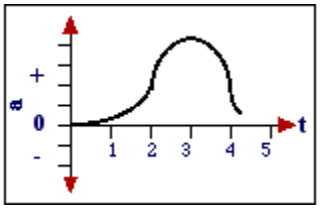
c) 

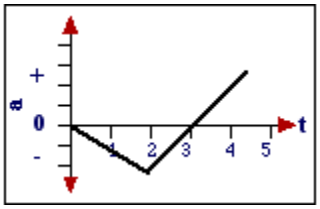
d) 

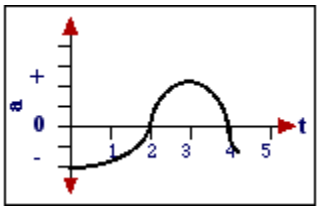
e) 

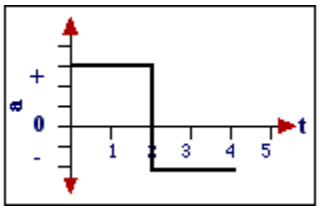
17. Which acceleration-time graph represents the same motion as the velocity-time graph shown below?



a)


b)


c)


d)


18. What is the slope of an acceleration-time graph, when the velocity of an object is **constant**?
    a) negative
    b) zero
    c) positive then negative
    d) positive

19. Which one of the following represents <u>average acceleration</u> as the slope of a straight line?
    a) displacement-time graph
    b) acceleration-time graph
    c) velocity-time graph
    d) distance-time graph

20. Which one of the following terms is defined as "the rate of change in velocity"?
    a) acceleration
    b) instantaneous velocity
    c) displacement
    d) average velocity

21. Which of the following is not an acceleration unit?
    a) (km/h)/s
    b) (m/s)/s
    c) m/s^2
    d) (km/h)/h
    e) km/s

22. When you look at the speedometer in a moving car, you can see the magnitude of car's
    a) average velocity
    b) instantaneous velocity
    c) average acceleration
    d) instantaneous acceleration

23. What was the average velocity (**in m/s**) of a hockey puck that took 4.00 seconds to slide 50.0 m into an open goal?

24. A plane travels 1700 km at a velocity of 680 km/h. How long did the trip last (**in hours**)?

25. What is the average velocity **(in km/h**) of a car that travels 680 km in 12 h?

26. A laser beam from Earth is reflected back from a mirror on the Moon in 2.60 s. If the distance between Earth and the Moon is 3.85×10^{8} m, calculate the speed of light.

27. A car is moving with a uniform speed of 15.0 m/s along a straight path. What is the distance covered by the car in 12.0 minutes?
    a) 1.80×10^{-1} km
    b) 8.00×10^{-5} km
    c) 1.08×10^{1} km
    d) 1.02×10^{-3} km

28. An athlete completes three laps of a circular track of radius 65.0 m. The total **displacement** of the athlete is:
    a) 408 m
    b) 136 m
    c) 65.0 m
    d) 0 m
    e) 314 m

29. An athlete completes two laps of a circular track of radius 50.0 m. The total distance the athlete runs is:
    a) 628 m
    b) 100 m
    c) 314 m
    d) 50.0 m
    e) 0 m

30. A person walks a distance of 240 m in a time of 120 s, stopping once along the way. What is the average velocity?
    a) 2.0 m/s
    b) 1.0 m/s
    c) 0.50 m/s
    d) unknown