

Summer Holiday Homework – 2017
Class IX A

Subject	Summer Homework
English	Solve the papers given for Summer Holiday Homework.
Hindi	1—मेरी गर्मी की छुट्टी विषय पर हिन्दी में निबंध लिखकर उसका अनुवाद अंग्रेजी में कीजिए।
Mathematics	Solve the Exercise – 14, 14*, 18, 18*, 20*, 21, Pg No 39, 40, 41 (Note – Make a separate Notebook for Holiday HW)
Physics	<ol style="list-style-type: none"> 1. Chart Paper Work- Life and Work of Sir Issac Newton 2. Solve the attached Worksheet.
Chemistry	<p>CHAPTER 1 - KINETIC THEORY OF DIFFUSION</p> <p>PAGE 5 - Questions and answers (Q1 to Q5)</p> <p>CHAPTER 2 - ATOMIC STRUCTURE</p> <p>PAGE - 12 Questions and answers (Q1 to Q6)</p> <p>PROJECT WORK:</p> <ol style="list-style-type: none"> 1. SHRUTI SHREYA - Draw electron arrangement of first twenty elements on a chart paper 2. DEBAGNI BERA - Make a chart on isotopes 3. ANUSHA DEMTA - Make a chart on physical states of matter mentioning properties of states of matter and also show interconversion of three states of matter
Biology	Textbook Questions and Answers of chapter 1 and 2.
Economics	Solve the attached worksheet.
Computer	Solve the Exercise Questions of Chapter 1.

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Worksheet

Subject – Economics

Chapter- Market

I. Observe the following table and answer the following questions:

Price(\$)	20	40	60	100	120	140	160
No of sunbeds Supplied	0	200	400	600	800	1000	1200

RG Edwards Ltd manufactures high-quality wooden garden furniture in England. One of its best selling products is a wooden sunbed. The number of sunbeds that the company is prepared to offer for sale at different prices is shown above.

1. Draw the supply curve for wooden beds using the given data.
2. How many beds would be supplied if the price was \$110?
3. If RG Edwards Ltd wanted to supply 900 beds per annum how much would it expect to sell them for?
4. Explain why the supply is Zero at price \$20?
5. Which of the following is not true about supply?
 - A. If there is a change in price there will be a movement along the supply curve.
 - B. If supply is fixed the supply curve will be horizontal.
 - C. There is a proportionate relationship between price of a good and the amount supplied.
 - D. If the price falls, supply will also fall.

II. How the demand curve will shifts if

- A) there is increase in income
- B) the price of complementary goods rise
- C) the interest rate increases
- D) the price of substitute goods rise

III. How the supply curve will shifts if

- A) there is increase in the cost of production
- B) there is increase in taxation
- C) there is increase in subsidy

[N.B – Write down all the economic terms (chapter 1-6) which are given in your book]

Linear Motion Practice worksheet PHYSICS

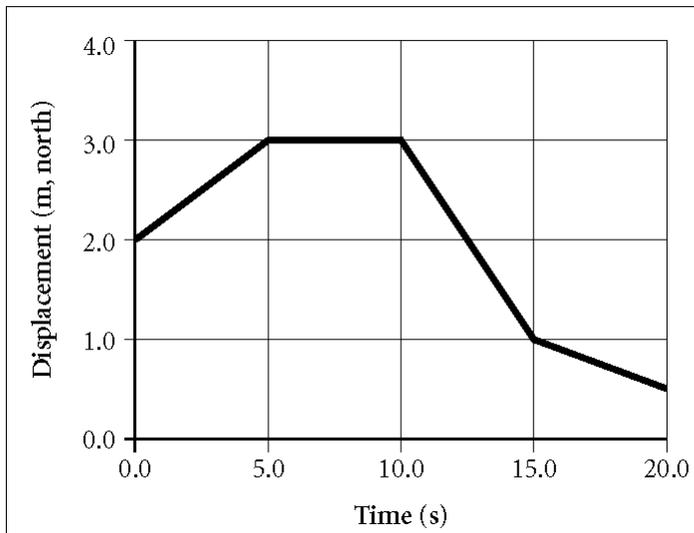
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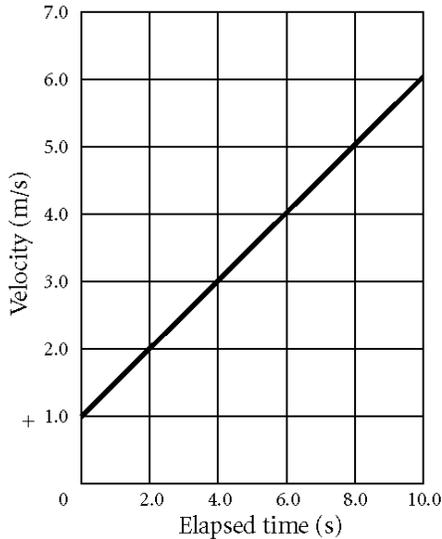
Multiple Choice

Identify the choice that best completes the statement or answers the question.

- _____ 1. What is the speed of an object at rest?
- | | |
|------------|-------------|
| a. 0.0 m/s | c. 9.8 m/s |
| b. 1.0 m/s | d. 9.81 m/s |

Motion of a Cat

- _____ 2. According to the graph above, during which interval is the cat at rest?
- | | |
|---------------|----------------|
| a. 0.0–5.0 s | c. 10.0–15.0 s |
| b. 5.0–10.0 s | d. 15.0–20.0 s |
- _____ 3. According to the graph above, the cat has the fastest speed during which interval?
- | | |
|---------------|----------------|
| a. 0.0–5.0 s | c. 10.0–15.0 s |
| b. 5.0–10.0 s | d. 15.0–20.0 s |
- _____ 4. Acceleration is defined as
- | | |
|--|------------------------------------|
| a. a rate of displacement. | c. the change in velocity. |
| b. the rate of change of displacement. | d. the rate of change of velocity. |
- _____ 5. When a car's velocity is positive and its acceleration is negative, what is happening to the car's motion?
- | | |
|------------------------|---------------------------------------|
| a. The car slows down. | c. The car travels at constant speed. |
| b. The car speeds up. | d. The car remains at rest. |
- _____ 6. When a car's velocity is negative and its acceleration is negative, what is happening to the car's motion?
- | | |
|------------------------|---------------------------------------|
| a. The car slows down. | c. The car travels at constant speed. |
| b. The car speeds up. | d. The car remains at rest. |



- ___ 7. The graph above describes the motion of a cyclist. The graph illustrates that the acceleration of the cyclist
- is constant.
 - decreases.
 - increases.
 - is zero.
- ___ 8. The graph above describes the motion of a cyclist. During the interval shown, the cyclist is
- slowing down.
 - speeding up.
 - traveling at the same speed.
 - at rest.
- ___ 9. Which of the following statements applies to the motion of a ball rising and then falling in free fall?
- The ball has constant acceleration as it moves upward.
 - The ball has constant acceleration at the top of its path.
 - The ball has constant acceleration as it moves downward.
- I only
 - III only
 - I and III
 - I, II, and III
- ___ 10. Which would fall with greater acceleration in a vacuum—a leaf or a stone?
- the leaf
 - the stone
 - They would accelerate at the same rate.
 - It is difficult to determine without more information.
- ___ 11. Speed is
- a measure of how fast something is moving.
 - always measured in terms of a unit of distance divided by a unit of time.
 - the distance covered per unit time.
 - all of the above.
 - none of the above.
- ___ 12. As an object falls freely in a vacuum, its
- velocity increases.
 - acceleration increases.
 - both A and B.
 - none of the above.

- ___ 13. A ball is thrown upwards and caught when it comes back down. In the absence of air resistance, the speed of the ball when caught would be
- less than the speed it had when thrown upwards.
 - more than the speed it had when thrown upwards.
 - the same as the speed it had when thrown upwards.
- ___ 14. Suppose an object is in free fall. Each second the object falls
- the same distance as in the second before.
 - a larger distance than in the second before.
 - with the same instantaneous speed.
 - with the same average speed.
 - none of the above
- ___ 15. A ball tossed vertically upward rises, reaches its highest point, and then falls back to its starting point. During this time the acceleration of the ball is always
- in the direction of motion.
 - opposite its velocity.
 - directed downward.
 - directed upward.
- ___ 16. Suppose you take a trip that covers 180 km and takes 3 hours to make. Your average speed is
- 30 km/h.
 - 60 km/h.
 - 180 km/h.
 - 360 km/h.
 - 540 km/h.
- ___ 17. Suppose a car is moving in a straight line and steadily increases its speed. It moves from 35 km/h to 40 km/h the first second and from 40 km/h to 45 km/h the next second. What is the car's acceleration?
- 5 km/h·s
 - 10 km/h·s
 - 35 km/h·s
 - 40 km/h·s
 - 45 km/h·s
- ___ 18. A ball is thrown straight up. At the top of its path its instantaneous speed is
- 0 m/s.
 - about 5 m/s.
 - about 10 m/s.
 - about 20 m/s.
 - about 50 m/s.
- ___ 19. A ball is thrown straight up. At the top of its path its acceleration is
- 0 m/s².
 - about 5 m/s².
 - about 10 m/s².
 - about 20 m/s².
 - about 50 m/s².

- _____ 20. A car accelerates at 2 m/s^2 . Assuming the car starts from rest, how much time does it need to accelerate to a speed of 20 m/s ?
- 2 seconds
 - 10 seconds
 - 20 seconds
 - 40 seconds
 - none of the above
- _____ 21. A freely falling object starts from rest. After falling for 6 seconds, it will have a speed of about
- 6 m/s.
 - 30 m/s.
 - 60 m/s.
 - 300 m/s.
 - more than 300 m/s.
- _____ 22. A freely falling object starts from rest. After falling for 1 second, it will have a speed of about
- 5 m/s.
 - 10 m/s.
 - 20 m/s.
 - 40 m/s.
 - none of the above
- _____ 23. Acceleration is defined as
- the rate at which distance is covered
 - the rate at which an object freely falls from rest
 - the rate at which velocity itself changes
 - the distance an object has fallen

Short Answer

24. How can you determine the instantaneous velocity at a given point on a position versus time graph?
25. The ratio of the change in an object's velocity to the time required for the change to occur describes what quantity?
26. What is free fall?
27. What is the magnitude of the acceleration of an object in free fall near Earth's surface?
28. A man on a bicycle travels at a constant speed in the positive direction for a short time. He then stops for a short rest before returning back to his starting point at the same constant speed that he originally moved. Sketch a distance-time graph and a velocity-time graph to represent this motion.
29. An automobile accelerates from rest up to a speed of 15 m/s . It then maintains this speed while driving for a while. Sketch a distance-time graph and a velocity-time graph to represent this motion.
30. Write a short paragraph explaining the difference between velocity and acceleration, and give examples of both.

Problems

31. In words, explain what each of the following equations represents. Be VERY CLEAR to distinguish between symbols that represent *averages* vs. *instantaneous* values

a) $s = d/t$

b) $d = v_i t + \frac{1}{2} a t^2$

c) $v = v_i + a t$

d) $d = \frac{1}{2} a t^2$

e) $v = a t$

Utilize the equations above and the template provided to solve the problems on the following pages.

EXAMPLE: A biker travels at an average speed of 11.1 m/s along a 8900 m straight segment of a bike path. How much time does the biker take to travel this segment?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer
$s = 11.1 \text{ m/s}$ $d = 8900 \text{ m}$	$t = ?$	$s = d/t$	$11.1 = 8900/t$ or $t = 8900/11.1$	$t = 802 \text{ s}$

32. A model airplane flies a distance of 1200 m in a time of 15 s. What is the average speed of the model airplane?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

33. A skateboarder starting from rest accelerates down a ramp at 2 m/s^2 for 2.4 s. What is the speed of the skateboarder at the bottom of the ramp?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

34. An apple falls from a tree and 0.5 second later hits the ground. How fast is the apple falling as it hits the ground?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

35. Starting from rest, a car undergoes a constant acceleration of 6 m/s^2 . How far will the car travel in the first 2 seconds?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

36. On planet Phalqwik the acceleration due to gravity is 16 m/s^2 . If a rock is dropped on Phalqwik, how far will it fall in 0.75 s?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

37. How fast will the rock from problem #36 be moving after it has fallen 0.75 s?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

38. A toy car is capable of maintaining a speed of 7.5 m/s. How far can this car travel in 6 s?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer

39. A model rocket goes from rest to a speed of 18 m/s in a time of 3 s. What is the acceleration of this rocket?

What information do I know to start?	What quantity am I trying to find?	What equation relates what I know to what I am looking for	Substitute the known numbers into the equation	Answer