

NEW STANDARD ACADEMY

SEMRI KOTHI SUPER MARKET, RAEBARELI

CLASS 9 (PHYSICS) DPP (Academy) 02/12/2024

1. Why we cannot hear each other on the moon ?
2. Which type of hearing aid are required by persons on the surface of the moon. Why ?
3. If a water wave Oscillates up and down three times each second and the distance between two consecutive crests is 2m. What is its frequency, wavelength and speed?
4. Why is a diver under water unable to hear the sound produced in air ?
5. Velocity of sound increases on a cloudy day. Why ?
6. We cannot hear echo in room. Explain
7. What is the velocity of sound in solids , liquids and gases ?
8. What is the phase difference between two nearest crests ?
9. Why the longitudinal waves are also called pressure waves ?
10. Is it possible to have longitudinal wave on a stretched string ? A transverse wave on a steel rod.
11. Will a vibrating source always produce sound ?
12. Explain why echoes can't be heard in a small room.
13. Why can we hear echoes in long galleries and big halls ?
14. Bats have no eyes still they can ascertain distances, directions nature and size of the objects. Explain Why ?
15. Sound is produced due to a vibratory motion, then why a vibrating pendulum does not produce sound ?
16. A loud sound can be heard at a large distance but a feeble or soft sound cannot be heard at a large distance. Explain why.
17. A child hears an echo from a cliff 4 seconds after the sound from a powerful cracker is produced. How far away A is the cliff from the child? Velocity of sound in air at 20°C is 340 m/s.
18. A ship sends a high frequency sound wave and receives an echo after 1 second. What is the depth of the sea? Speed of sound in water is 1600 m/s.
19. How far does sound travel in air when a tuning fork of frequency 250 Hz completes 50 vibrations? The speed of sound in air is 340 ms^{-1}
20. A bat can hear sound at frequencies up to 120 kHz. Determine the wavelength of sound in the air at this frequency. Take the speed of sound in air as 344 ms^{-1}

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CLASS 9 (Chemistry) DPP (Academy)02 /12 /2024

1. Valency of phosphorus is 3. What is the formula of its oxide, sulphide and chloride?
2. Valencies of N, S, O, H and Cl is 3, 2, 2, 1 and 1 respectively. Write the formula of (a) ammonia (b) water (c) oxide of nitrogen (d) hydrogen chloride (e) hydrogen sulphide (f) chloride of nitrogen.
3. Valency of carbon, oxygen, sulphur and chlorine is 4, 2, 2 and 1 respectively. Write the formula of the compounds formed between (a) Carbon and oxygen (b) Carbon and sulphur (c) Carbon and chlorine (d) Oxygen and chlorine (e) Sulphur and Chlorine.
4. The valency of an element A is 3 and that of element B is 2. What is the formula of a compound formed by element A and B?
5. What are the three different valencies of element X in the following compounds? H_2X , XO_2 , XO_3 , CX_2 , XCl_4
6. Formula of a sulphide is A_2S_3 . What is the valency of A? What is the formula of its oxide and bromide ?
7. Formula of a chloride is ACl_6 . What is the valency of A? What is the formula of its oxide and sulphide?
8. Formula of a chloride is ACl_3 . What is (a) the valency of A (b) Oxide of A?
9. Formula of phosphorus oxide is P_2O_5 . What is the formula of chloride and sulphide of phosphorus ?
10. Valency of nitrogen is 5. What is the formula of its oxide?
11. How did Berzelius assign symbols to the elements ?
12. Give one point of difference between an atom and an ion.
13. Give one example each of a polyatomic cation and a polyatomic anion.
14. Identify the correct chemical name of $FeSO_3$ from the given names - Ferrous sulphate, Ferrous sulphide, Ferrous sulphite.
15. Write the chemical formula for the chloride of magnesium
16. Define atomic mass unit .How is it linked with relative atomic mass ?
17. How will you identify the presence of atoms if they do not exist independently for most of the elements ?
18. In a reaction, 5.3 g of sodium carbonate reacted with 6.0 g of ethanoic acid. The products were 2.2 g of carbon dioxide, 0.9 g of water and 8.2 g of sodium ethanoate. Show that these observations

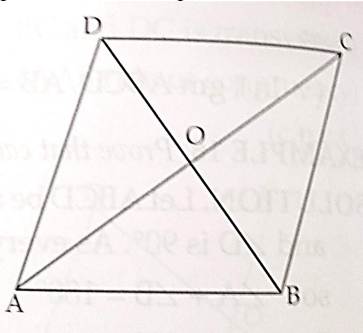
are in agreement with the law of conservation of mass.

19. Hydrogen and oxygen combine in the ratio of 1: 8 by mass to form water. What mass of oxygen gas would be required to react with 3 g of hydrogen gas?
20. Which postulate of Dalton's Atomic theory is the basis of law of conservation of mass ?

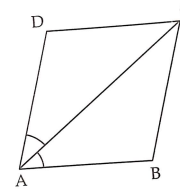
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CLASS 9 (MATH'S) DPP (Academy) 2/12/2024

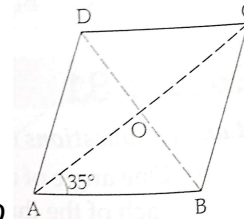
- Diagonals of a quadrilateral ABCD bisect each other if $\angle A = 45^\circ$ determine $\angle B$.
- In a rectangle ABCD, diagonal intersect at O. if $\angle OAB = 30^\circ$, find (i) $\angle ACB$ (ii) $\angle ABO$
- ABCD is a rhombus in which altitude from D to side AB bisects AB. Find the angles of the rhombus
- Prove that each angle of a rectangle is 90° .
- If the diagonal of a parallelogram are equal, then prove that it is a rectangle.
- Show that the diagonals of rhombus bisect each other at right angles.
- If the diagonals of a quadrilateral bisect each other at right angle, then prove that the quadrilateral is a rhombus.



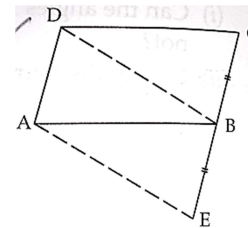
- The angle of a quadrilateral are $(4x)^\circ$, $(7x)^\circ$, $(15x)^\circ$ and $(10x)^\circ$. Find the smallest and the largest angles of the quadrilateral.
- If angle A, B, C and D of a quadrilateral ABCD, taken in order are in the ratio 3:7:6:4, then ABCD is a trapezium. Is this statement true? Give reason for your answer.
- ABCD is a rhombus in which altitude from D to side AB bisects AB. Find the angles of the rhombus.
- Prove that each angle of a rectangle is 90° .
- In the adjoining figure the diagonal AC of parallelogram ABCD bisects $\angle A$. Show that (i) AC bisects $\angle C$ also (ii) ABCD is a rhombus



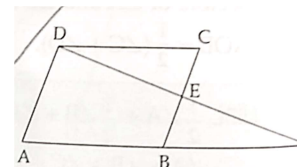
- Show that the bisectors of the angles of a parallelogram form a rectangle
- In the adjoining rhombus ABCD, $\angle BAC = 35^\circ$. Find: (i) $\angle ABO$ (ii)



- In the adjoining figure, ABCD is a parallelogram. CB is produced to E such that $BE = BC$. Prove that AEBD is a Parallelogram.
- In the adjoining figure, ABCD is a parallelogram and E is mid-point of BC. DE and AB on producing meet at F. Prove that $AF = 2AB$



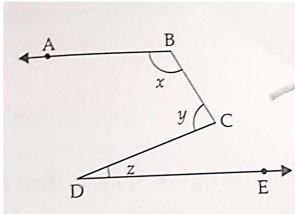
- Diagonals of a quadrilateral ABCD bisect each other. If $\angle A = 45^\circ$ determine $\angle B$



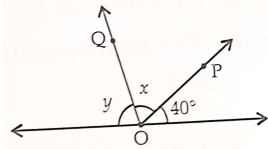
- In the figure given below, $AB \parallel DE$. Show that $\angle x + \angle y - \angle z = 180^\circ$.

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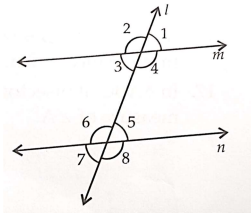
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19. In the adjoining figure, rays OP and OQ stand on a line. If $x : y = 2 : 3$, then find the values of x and y .



20. In the adjoining figure, if $m \parallel n$, then find $\angle 4 + \angle 7$.



1. Skin belongs to which organ system?
2. Why skin is called the largest organ of the body?
3. Name any one modified sweat gland and any one modified sebaceous gland.
4. What are nails made up of? From where do they grow from?
5. State the difference between leucoderma and albinism.
6. Name any two glands found in the human skin and their functions.
7. An otherwise normal healthy young man started perspiring while it was intensely cold outside. What could have been one reason for it?
8. How does the skin help prevent the entry of germs into the body?
9. How does the skin help in preventing the excessive loss of heat in severe cold?
10. Name the four types of glands in the integumentary system.
11. What are hair follicles?
12. List the primary functions of skin.
13. Write a short note on epidermis.
14. Define the term vasoconstriction. How does it help in thermoregulation?
15. What do you understand by goose flesh?
16. Draw a diagrammatic sketch of the vertical section of the human skin showing its three main layers.
17. Describe the five layers forming the epidermis.
18. Discuss the glands associated with skin derivatives.
19. Give an account of the functions of integumentary system.