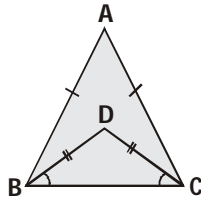


1 In  $\triangle DEF$ ,  $PQ$  is a line segment drawn through mid-points of  $DE$  and  $DF$  respectively. If  $EF = 7.6$  cm, find the length of  $PQ$ .

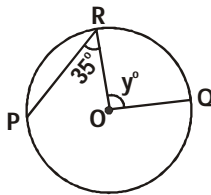
- (A) 3.8 cm    (B) 4.5 cm    (C) 7.2 cm    (D) 2.6 cm

2 In the given figure, find the ratio  $\angle ABC : \angle ACD$ .



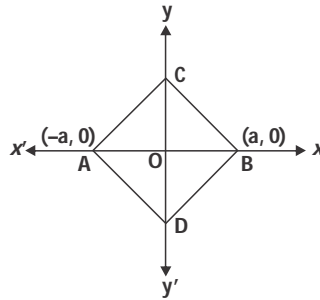
- (A) 1 : 1    (B) 2 : 1    (C) 1 : 2    (D) 3 : 1

3  $O$  is the centre of the circle as shown in the figure.  $\angle ORP = 35^\circ$  and the distance between  $P$  and  $Q$  through ' $O$ ' is 4 cm. What is the measure of  $\angle ROQ$  ?



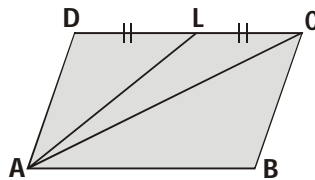
- (A)  $55^\circ$     (B)  $35^\circ$     (C)  $105^\circ$     (D)  $70^\circ$

- 4 In the given graph,  $\triangle ABC$  and  $\triangle ABD$  are equilateral triangles.



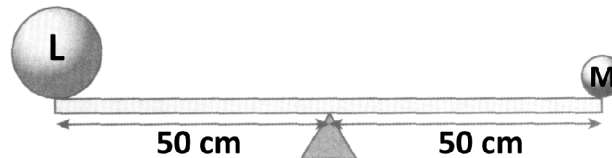
Find the respective coordinates of points C and D.

- (A)  $(0, a\sqrt{3}) (0, a\sqrt{3})$       (B)  $(0, -a\sqrt{3}) (0, a\sqrt{3})$   
 (C)  $(0, a\sqrt{3}) (0, -a\sqrt{3})$       (D)  $(a\sqrt{3}, 0) (-a\sqrt{3}, 0)$
- 5 In the given figure, ABCD is a parallelogram and L is the mid-point of DC. If ar (ABCL) is  $72 \text{ cm}^2$ , find ar (ADC).



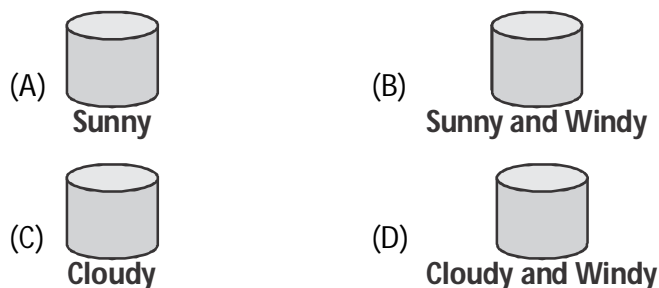
- (A)  $24 \text{ cm}^2$     (B)  $48 \text{ cm}^2$     (C)  $36 \text{ cm}^2$     (D)  $54 \text{ cm}^2$

- 6 **Object 1 needs a bigger force to accelerate than object 2 in the absence of any opposing force. We can say that object 1 has a**
- (A) higher volume than object 2.  
 (B) higher density than object 2.  
 (C) higher inertia than object 2.  
 (D) lower mass than object 2.
- 7 **Which would require a greater force – accelerating a 10 g mass at  $5 \text{ m s}^{-2}$  or a 20 g mass at  $2 \text{ m s}^{-2}$  ?**
- (A)  $F_1 = F_2$                       (B)  $F_1 > F_2$   
 (C)  $F_1 < F_2$                       (D) Both (A) and (B)
- 8 **The diagram given below shows two solid balls, L and M, that are balanced at the ends of a metre rule.**



- Which statement about the balls is true ?**
- (A) Ball L is lighter than ball M.  
 (B) Both the balls have the same mass.  
 (C) Ball L is denser than ball M.  
 (D) Both the balls have the same density.
- 9 **A 10 N force applied on a body produces in it an acceleration of  $2 \text{ m s}^{-2}$ . What is the mass of the body ?**
- (A) 20 kg                      (B) 0.2 kg  
 (C) 5 kg                      (D) 200 g
- 10 **A box of mass 2 kg is moving at a constant speed of  $3 \text{ m s}^{-1}$ . What is the kinetic energy of the box ?**
- (A) 2 J                      (B) 3 J  
 (C) 9 J                      (D) 18 J

- 11 Four identical beakers were filled with water. They were left in four different places with different conditions. After several hours, which place has beaker with the least amount of water ?



- 12 Carbon has two isotopes  $^{12}_6\text{C}$  and  $^{13}_6\text{C}$  each with an abundance of 98.9% and 1.1% respectively. What is the closest value of the atomic mass of carbon ?

- (A) 12 amu                      (B) 12.01 amu  
(C) 12.02 amu                (D) 12.03 amu

- 13 The table given below shows the melting points and the boiling points of three substances.

| Substance | Melting point ( $^{\circ}\text{C}$ ) | Boiling point ( $^{\circ}\text{C}$ ) |
|-----------|--------------------------------------|--------------------------------------|
| 1         | 10                                   | 90                                   |
| 2         | 65                                   | 120                                  |
| 3         | 24                                   | 78                                   |

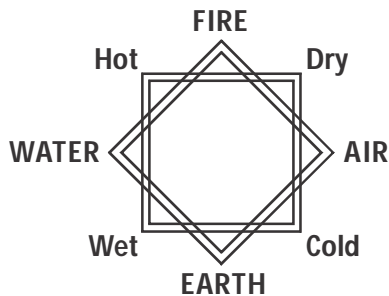
At which temperature will all the substances be in the same state ?

- (A) 25  $^{\circ}\text{C}$                       (B) 80  $^{\circ}\text{C}$   
(C) 75  $^{\circ}\text{C}$                       (D) 100  $^{\circ}\text{C}$

14 Identify the pair of substances having the same formula unit mass.

- (A) Calcium chloride, potassium carbonate
- (B) Calcium oxide, hydrochloric acid
- (C) Carbon monoxide, ammonia
- (D) Carbon dioxide, nitrous oxide

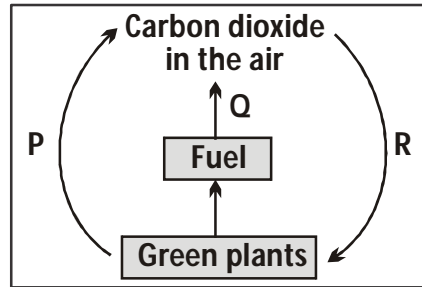
15 All materials were made of four 'elements', namely, fire, air, earth and water. Each of these four elements contained two of the four properties of hot, cold, wet and dry.



Which key gives the correct properties of all the four 'elements' ?

|     | Fire      | Air       | Earth     | Water     |
|-----|-----------|-----------|-----------|-----------|
| (A) | Hot, cold | Wet, dry  | Wet, cold | Hot, wet  |
| (B) | Hot, dry  | Wet, dry  | Hot, cold | Wet, cold |
| (C) | Hot, cold | Dry, wet  | Cold, hot | Dry, wet  |
| (D) | Hot, dry  | Dry, cold | Cold, wet | Wet, hot  |

16 Identify P, Q and R.



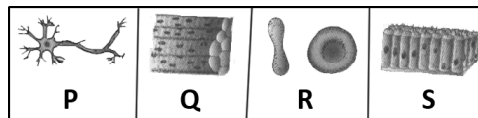
- (A) P–Respiration, Q–Photosynthesis, R–Combustion.
- (B) P–Respiration, Q–Combustion, R–Photosynthesis.
- (C) P–Combustion, Q–Decay, R–Respiration.
- (D) P–Decay, Q–Respiration, R–Photosynthesis.

17 Which statement is *true* about the process shown below ?



- (A) It is caused by the decay of organic substances.
- (B) It is an important process in the nitrogen cycle.
- (C) It is carried out by non-green plants and certain bacteria.
- (D) It is an essential process in living organisms to provide energy and in maintaining the balance between oxygen and carbon dioxide in the atmosphere.

18 Which labelled cell is found in the nervous system ?



- (A) P
- (B) Q
- (C) R
- (D) S

19 The information given below shows the organisation of cells in the human body.

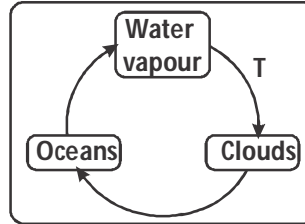


Which of the following are examples of stage P?

- (A) Stomach, platelet, eye (B) Kidney, sperm, ear  
 (C) Liver, ovum, lung (D) Uterus, skin, nose

20 Identify 'T' in the given water cycle.

- (A) Melting  
 (B) Condensation  
 (C) Evaporation  
 (D) Precipitation



**Class : IX**

**General Awareness**

21 The movie "Kai Po Che" is based on which novel of Chetan Bhagat ?

- (A) Three Mistakes of My Life  
 (B) Two States  
 (C) Revolution 20-20  
 (D) Night at the call centre

22 The given logo belongs to which company ?



- (A) Toyota (B) Mazda  
 (C) BMW (D) Mahindra

23 Who is the current CEO of Face book ?

- (A) Alan Isaac (B) Mark Zuckerberg  
 (C) Jan Koum (D) Bill gates

24 Which planet has the longest day among all planets in the solar system ?

- (A) Neptune (B) Saturn  
 (C) Venus (D) Jupiter

25 What does the acronym BSNL stand for ?

- (A) Bharat Sarkar Nigam Limited  
 (B) Bharat Sarkar Nirman Limited  
 (C) Bharat Suvidha Nigam Limited  
 (D) Bharat Sanchar Nigam Limited

