

# **ANAND PUBLIC SCHOOL**

"Summer vacation is the best time for families to slow down, reconnect, and spend meaningful 'US' time together."

## Dear Parents,

Summer Vacation offers a refreshing break for children - a chance to relax, explore, and rejuvenate. More than just a pause from school work, it's a precious time to nurture bonds, foster creativity and plant the seeds of values and memories that last a lifetime.

Children may not remember every toy they receive, but they will always carry the warmth of stories told, meals shared and moments spent with their loved ones. Let's use this opportunity to guide, support and connect with them in ways that matter most.

## Below are few suggestions:-

1. All homework must be written clearly and neatly.

- 2. Assignments should be completed independently by the students. Parental support is encouraged, but the effort should reflect the child's own capabilities.
- 3. Try conversing in English to help them be comfortable with the language.
- 4. Ensure that all work is completed within the given time frame.
- 5. Holidays homework will be assessed and carry weight in evaluations across all subjects.
- 6. Children are likely to follow their routine if we give them Positive instructions and lots of praise/appreciation for what they do right.
- 7. Science week is celebrated in the month of July to enhance the scientific attitude.
- 8. Encourage daily reading. Cultivating a reading habit is key to lifelong learning.

DATESHEETFORP.12			DATESHEETFORP.13			
DATE	IX	XI	X	XII		
JULY 08, 2025	English	Phy. Edu.	I.T.	Phy. Edu.		
JULY 11, 2025	Hindi	Acc./Phy./Pol. Sci.	Hindi	Acc./Phy./Pol. Sci.		
JULY 15, 2025	Science	English	Science	English		
JULY 18, 2025	S.St.	B.Std./Chem./Hindi	S.St.	B.Std./Chem./Hindi		
JULY 22, 2025	Maths	Eco./Bio.	Maths	Eco./Bio.		
JULY 25, 2025	I.T.	Maths	English	Maths		
JULY 26, 2025		Music		Music		

# School will reopen on July 02, 2025 (Wednesday)

Holidays Homework will be uploaded on E-Care and our website. Wishing you all a joyful, relaxing and enriching Summer Break Enjoy, Enrich, Empower!





# **HOLIDAYS HOMEWORK FOR CLASS - X**

# SESSION: (2025-26)

# **English**

## A. File work : Autography Analysis

- Study the autography of Nelson Mandela. Write about the prominent features of the autobiography and lessons learned from it.
- About Robert Frost you could explore his life, themes and poetic style. You can also research his background. Compare and contrast Frost's theme and style with other poets of his time. Develop a written analysis of his work, focusing on a specific poem.

## **B.** Assignment Work:

- Solve unseen passages from 1 to 10 from English workbook.
- Fill and revise worksheets of 1 to 5 poems from English practice book.
- C. Revise syllabus of P. T. 3

# <u>Hindi</u>

 भी कृष्ण के सभी अवतारों के नाम लिखो (चित्र सहित) तथा किसी एकअवतार का वर्णन करो।
 एकाकी और नाटक में क्या अंतर है? कुछ एकाकी और नाटकों की सूची तैयार करो।
 आपका एटीएम कार्ड खो गया है। इसकी जानकारी देते हुए तथा किसी भी प्रकार के ऑनलाइन भूगतान और नगद निकासी पर रोक लगाने हेतू बैंक प्रबंधक को ई- मेल लिखो।

## P.T-3 पाठ्यक्रम

कविता -	1) पर्वत प्रदेश में पावस	2) तोप	
पा० -	1) तांतारा वामीरो	2) तीसरी कसम	
व्याकरण -	1) समास	2) मुहावरे	3) विज्ञापन

# <u>I.T</u>

## Prepare a project file on this Topics

- 1) Self- regulation
- 2) Sustainable development
- 3) Types of network
- 4) Network topology
- 5) Data transfer on internet
- 6) Web browser relationship
- 7) Types of communication
- 8) Components of desktop
- 9) Data types

Revise Lesson - 1, 2, 3, 4, 6, 7

P.T-3 Syllabus - Ls. 4 to 7

# **Social Science**

- Learn the Syllabus of P.T-3
  - Lesson 1 Geo:- Resource and development
  - Lesson 2 His:- Nationalism in India
  - Lesson 2 Pol. Sci:- Federalism
  - Lesson 3 Eco:- Money and Credit
- Make a project Report on topic 'Consumer Rights'.

- Paste the Map related with
  - Geo:- Ls 1, 3
  - His:- Ls 2

- 1. Area, Location
- 2. Map of state
- 3. Flora and Fauna
- 4. Food
- 5. Culture
- 6. Population
- 7. Political Structure
- 8. Heritage
- 9. Conclusion

# **Biology**

- > Complete your practical file
- Science Chapter :-
  - Physics- Ch. 9, 10
  - Chemistry- Ch. 12
  - Bio- Ch. 5, 6, 15
- Q1. What happens at synapse between two neuron?
- Q2. What is tropic movement? Explain with example.
- Q3 Draw labelled structure of neuron and explain its function
- Q4 Mention function of each
- a) thyroxine b) growth hormone c) testosterone d) adrenaline
- Q5) Name various plant hormones give their role
- Q6) What are reflex actions? Give two examples. Explain reflex Arc.

Q7) Nervous and Hormonal system together perform function of control and coordination in human life justify this statement.

- Q8) Which hormone is responsible for changes noticed in female at puberty?
- Q9) Blood sugar level rises due to deficiency of which hormone
- Q10) Iodine is necessary for synthesis of which hormone
- Q11) Name endocrine gland associated with brain
- Q12) Which gland secret digestive enzymes as well as hormones
- Q13) Name endocrine gland associated with kidney.
- Q14) Which endocrine gland is present in males but not in females?
- Q15) What is phototropism? Describe an activity demonstrate phototropism.
- Q16) What are nastic and curvature movements? Give an example of each?

Q17) Where is hypothalamus located? Name the secretions released by neurosecretary cells of hypothalamus. Why is hypothalamic - pituary system important?

Q18) Name the plant hormones responsible for the following.

A) Promotion of dormancy in seeds and buds.

- B) Promotion of cell division.
- C) Promotion of yellowing and senescence of leaves.
- D) Elongation of cells.

Q19) Write 'a' and 'b' in the given flowchart of neuron through which information travels as an electrical impulse.

 $[Dendrite] \rightarrow ['a'] \rightarrow ['b'] \rightarrow [End point of neuron]$ 

# **Physics**

1) An object is placed 25 cm in front of a concave lens of focal length 25 cm. find the location and nature of image.

- 2) A pen 3cm in length is kept 30cm away from a convex lens of focal length 20cm. calculate the size and the nature of the image formed. Also, draw the ray diagram.

- 3) A 5 cm tall object is placed perpendicular to the principal axis of a convex lens of focal length 20 cm. The distance of the object from lens is 30 cm. determine the position, nature and size of image formed.
- 4) A convergent lens of power 8 D is combined with a divergent lens of power-10 D. calculate (a) power of combination (b) focal length of combination.
- 5) An object 7 cm high is kept at a distance of 15 cm from a convex lens of focal length 20 cm. Find the position, size and magnification of the image. Also, find the power of lens.
- 6) What is the nature of the image formed by a lens, if it produces positive magnification?
- 7) Two lenses of focal length 15 cm and 30 cm are given. What will be the power of the combination of lenses.
- 8) A convex lens of focal length 20 cm can produce a magnified virtual as well as real image. Is this a correct statement? If yes where shall the object be placed in each case for obtaining these images.
- 9) Which lens would you prefer to use while reading small letters from a dictionary?
- 10) A ray of light passing through which part of the lens goes undeviated?
- 11) What is scattering of light? Why does the cleat sky appear blue?
- 12) Draw a labelled diagram to show
  - (a) dispersion of a beam of white light (b) formation of a rainbow.
- 13) A doctor has prescribed a corrective lens of power -1.2 D to a person suffering from which defect of vision.
- 14) A myopic person having far point 80 cm uses spectacles of power -1 D. how far can he see?
- 15) How does the size of particles and wavelength of light affect the scattering?
- 16) A person cannot see the object beyond 5 cm distinctly. State the focal length of lens required to correct this defect of vision.
- 17) What is the importance of accommodation in human eye? Write the range of normal human eye.
- 18) Sun is visible two minutes before actual sunrise and two minutes after sunset. Give reason.

- 19) Discuss about tyndall effect and how does it take place?
- 20) When light rays enter the eye, most of the refraction occurs at the
  - (a) crystalline lens (b) outer surface of the cornea
  - (c) iris (d) pupil

# Chemistry

## Chapter 1 : Chemical Reactions and Equations

## Topic 1.1 : Chemical Reactions and Equations

### Very Short Answer Type Questions

Q.1. Complete the reaction :

Fe,O, + Al -

- Q.2. What happens chemically when quicklime is added to water?
- Q.3. Name the products formed when zinc granules are treated with dilute sulphuric acid.
- Q.4. Which one is a chemical change fermentation of fruit juice or diluting fruit juice?
- Q.5. What change in colour is observed when white silver chloride is left exposed to sunlight? What type of chemical reaction is this?
- Q.6. Balance the given chemical equation:

 $Al(s) + CuCl_{2}(aq) \longrightarrow AlCl_{2}(aq) + Cu(s)$ 

Q.7. Balance the following chemical equation.

 $NaOH + H_2SO_4 \longrightarrow Na_2SO_4 + H_2O$ 

Q.8. Balance the chemical equation :

MnO<sub>2</sub> + HCl  $(aq) \longrightarrow$  MnCl,  $(aq) + 2H_2O(l) + Cl, (g)$ 

Q.9. What do you observe when a matchstick flame is brought near a tube containing hydrogen gas?

#### Short Answer Type Questions – I

- Q.1. Distinguish between an exothermic and an endothermic reaction. Amongst the following reactions, identify the exothermic reaction and the endothermic reaction.
  - Heating coal in air to form carbon dioxide.
  - (ii) Heating limestone in a lime kiln to form quicklime.
- Q.2. When the powder of a common metal is heated in an open china dish, its colour turns black. However, when hydrogen is passed over the hot black substance so formed, it regains its original colour. Based on the above information answer the following questions:
  - (i) What type of chemical reaction takes place in each of the two given steps?
  - (ii) Name the metal initially taken in the powder form. Write balanced chemical equations for both reactions.
- Q.3. Write balanced equations for the reaction of :
  - (ii) Calcium with water (i) Iron with steam
- Q.4. Crystals of copper sulphate are heated in a test tube for some time. What is the colour of copper sulphate crystals
  - (i) before heating, and (ii) after heating?
- Q.5. State any two observations in an activity which may suggest that a chemical reaction has taken place. Give examples to support your answer.
- Q.6. Write fully balanced chemical equation and state the physical condition and physical state of the reactants in the following reaction.

## [2 Marks]

[1 Mark]

## Long Answer Type Questions

- Q.1. Observe the given figure and answer the following questions.
  - (i) Write the complete balanced reaction for the above.
  - (ii) Type of reaction involved.
  - (iii) Is there any precipitate formed?
  - (iv) If any precipitate formed, write the colour of the precipitate.



- Q.2. (a) Can we stir silver nitrate solution with a copper spoon? Why or why not? Support your answer with reason.
  - (b) Why a brown coating is formed on the iron rod when iron rod is kept dipped in copper sulphate solution for sometime? What change will be observed in the colour of the solution?
- Q.3. (a) Balance the following chemical equations :
  - (i) NaOH +  $H_2SO_4 \longrightarrow Na_2SO_4 + H_2O$
  - (ii)  $PbO + C \longrightarrow Pb + CO_{2}$
  - (iii)  $Fe_2O_3 + AI \longrightarrow Al_2O_3 + Fe + Heat$
  - (b) Write the balanced chemical equations for the following reactions.
    - (i) Barium chloride + Potassium sulphate  $\longrightarrow$  Barium sulphate + Potassium Chloride
    - (ii) Zinc metal + silver nitrate → zinc nitrate + silver metal
- Q.4. (a) Define a balanced chemical equation. Why should an equation be balanced?

- (b) Write the balanced chemical equation for the following reason :
  - (i) Phosphorus burns in presence of chlorine to form phosphorus pentachloride.
  - (ii) Burning of natural gas
  - (iii) The process of respiration.

[5 Marks]

Aluminium metal dissolves in aqueous copper sulphate solution with the formation of aluminium sulphate and copper.

- (i) What do you understand by the following terms used in a chemical equation :

   (a) reactants
   (b) products?
- (ii) What does symbol (→) represent in a chemical equation?
- Q.7. A substance X, which is an oxide of a group 2 element, is used intensively in the cement industry. This element is present in bones also. On treatment with water it forms a solution which turns red litmus blue. Identify X and also write the chemical reactions involved.
- Q.8. Grapes hanging on the plant do not ferment but after being plucked from the plant can be fermented. Under what conditions do these grapes ferment? Is it a chemical change?
- Ans. The microbes can grow in the plucked grapes under anaerobic conditions. But grapes when attached to the plants, have their own immune system which prevents fermentation of grapes. Yes, fermentation of grapes is a chemical change.
- Q.9. Balance the following chemical equations

(a) Mg + N<sub>2</sub>  $\longrightarrow$  Mg<sub>3</sub>N<sub>2</sub> (b) Al + Cl<sub>2</sub>  $\longrightarrow$  AlCl<sub>3</sub>

#### Short Answer Type Questions - II

- Q.1. Name the products formed in each case when :
  - (a) hydrochloric acid reacts with caustic soda.
  - (b) granulated zinc reacts with caustic soda.
  - (c) carbon dioxide is passed into limewater.
- Q.2. Write chemical equations for the reactions taking place when.
  - (a) Magnesium reacts with dilute HNO<sub>3</sub>
  - (b) Sodium reacts with water
  - (c) Zinc reacts with dilute hydrochloric acid
- Q.3. Complete the following chemical equations :
  - (i)  $C_2H_5OH + O_2 \longrightarrow$  (ii)  $C_2H_5OH \xrightarrow{Conc. H_2SO_4}{443 K}$
  - (iii) CH<sub>3</sub>COOH + NaHCO<sub>3</sub> →
- Q.4. Complete the following chemical equations :
  - (i)  $CH_3COOH + Na_2CO_3 \longrightarrow$  (ii)  $CH_4 + O_2 \longrightarrow$
  - (iii)  $C_2H_5OH + Na \longrightarrow$

Q.5. (a) Write the essential condition for the following reaction to take place.

$$2AgBr \longrightarrow 2Ag + Br$$

Write application of this reaction.

- (b) Complete the following chemical equation of a chemical reaction :
  - 2FeSO<sub>4</sub> Heat Fe<sub>2</sub>O<sub>3</sub> + ..... + .....
- (c) What happens when water is added to quicklime? Write chemical equations.
- Q.6. On adding a drop of barium chloride solution to an aqueous solution of sodium sulphite, a white precipitate is obtained.
  - (a) Write a balanced chemical equation of the reaction involved.
  - (b) What other name can be given to this precipitation reaction?
  - (c) On adding dilute hydrochloric acid to the reaction mixture the white precipitate disappears. Why?

## <u>Maths</u>

1. 20-20 Mathematics (Book)

- Do MCQ, Very Short Ans. and Case Study
- 2. Lab manuals:- Do the activities marked in the book.
- 3. Revise P.T.-3 syllabus Ch. 7, 8, 9
- (Do assignment & Revise in a separate Register) (Marks will be allotted for this)

[3 Marks]



	- Constant Port	111111111111111111111111111111111111111	17-5	SIGN	SME	ENT	(	Ch	1	3		
			SELF	ASSES	SMEN	T TEST-	13		-	_		- 6
T	ime: 45 min.					S	1A	TKS	TIC	2	M.1	М
	1. After an exami	nation, a teach	ner wants to	know the	marks	obtained b	y maxi	mum nu	umber o	of the s	tudents	iı
	(a) median	(b)	mode	01 ma	irks. (c	) mean		(d	) rang	te		1
2	Find the sum of	of lower limits	of modal cl	ass and m	edian cl	ass of the	followi	ng data				
	Frequent	30	- 40 25	40 - 50	50	16	60 -	70	70 -	80	80 -	1 (c)
	(a) 85	(b)	90		(c	) 70		(d	) 75		10	
3	<ul> <li>For the data 2,</li> <li>(a) 9</li> </ul>	9, $x + 6$ , $2x + $	3, 5, 10, 5;	if the mea	an is 7, 1	then the v	alue of	f x is:	1) 0			
4	. If the difference	(b) e of mode and	median of	a data is 2	24, then	the differ	ence of	f its mee	l) 3 lian an	d mean	n is:	
5	(a) 12	(b)	24		(0	) 8		((	d) 36			
0	Class	he following f	requency di	stribution	n is 24, 1	and the va	alue of	p:	0 - 40		40	51
	Frequenc	y	3	4	20	20 -	50	0	3		2	-
6.	In the following	data, find the	e values of	p and $q$ . A	lso, fin	d the med	ian cla	iss and	modal	class.		
	Clas	58	100 - 200	200 -	300	300 - 400	40	0 - 500	500	0 - 600	0 600	) -
	Frequen	cy (f)	11	12	2	10	-	q		20	-	14
7	Construct the fr	equency (cj)	ibution tab	le for the	oiven d	ata:	_	40	-	00		
	Marks obtain	ned Less t	han 10 Le	ss than 2	0 Less	than 30	Less t	han 40	Less	than 5	0 Less	th
9	No. of Stude	tion method	find the m	22 ean of the	followi	37		58	1	67	_	78
0.	Class	135 -	140 140 -	145 145	- 150 1	50 - 155	155 -	160 1	60 - 16	35 165	5 - 170	170
	Frequency	4	9	140 140	8	28	2	4	10	100	5	1
	The annual profi distribution:	ts earned by	60 shops o	f a shopp	Or oing cor	nplex in	a give	n locali	ity is d	lescrib	oed in t	he fe
	Profit (in ₹ in thousand)	10 or more than 10	20 or mo than 20	re 30 o tha	r more an 30	40 or m than	nore 40	50 or n than	nore 50	60 or that	more n 60	70 t
[	No. of shops	60	56		32	28		20		1	14	1
(	Calculate median	profit.										
9. I	f the mode of the	following da	ta is 45, fi	nd x and	y, give	$n \Sigma f i = 5$	0.					
	Class	10 -	20 20	20 - 30 30 - 40		0 40	40 - 50 50 -		- 60	6	0 - 70	
- 3	Frequency	4	and the second	8	x		12		10		4	
10 000	the mean of the for equencies $f_1$ and	ollowing frequencies $f_2$ .	uency dist	ribution	is 62.8	and the	sum o	of all fr	equen	cies is	s 50. Fi	nd t
10. The free			00.40	40	-60	60-80		80-1	.00	1	00-120	
10. TI	Class	0-20	20-40									

Assign Men	tch.14
SELF ASSESSM	PROBAB
min.	<ol> <li>9. A child's game ha</li></ol>
we dice are rolled together. The probability of getting	and rest are red, a
arm of numbers on the two dice as 2, 3 or 5, is: [1]	and rest are red;
(a) $\frac{7}{36}$ (b) $\frac{11}{36}$	the probability th
<ul> <li>(c) 5/36 (d) 4/9</li> <li>2. The probability of guessing the correct answer to a certain test question is x/6. If the probability of not</li> </ul>	<ul> <li>(i) triangle</li> <li>(ii) square</li> <li>(iii) square of b</li> <li>(iv) triangle of</li> </ul>
guessing the correct answer to this question is $\frac{2}{3}$ ,	The King, Queen a a pack of 52 cards

- (a) 2 (c) 4
  - (d)6
- 3. A bag contains 24 marbles, some of which are green and others are blue. A marble is drawn at random from the bag. If the probability that it is green is  $\frac{1}{2}$

then find the number of the blue marbles in the bag. [2]

- 4. A card is drawn at random from a pack of 52 playing cards. Find the probability that the card drawn is neither an ace nor a queen. [2]
- 5. What is the probability that there are 53 Wednesdays [2] in a leap year?

Or

An integer is chosen at random between 1 and 100. Find the probability that it is:

(ii) not divisible by 8. (i) divisible by 8,

- 6. Three unbiased coins are tossed together. What is the probability of getting
  - (b) at least two heads, (a) two heads,
  - (c) at most two heads?

- 7. Anita, Sita, Gita and Rita are four friends. What is the probability that (in a non-leap year) [3]
  - (i) All will have same birthday?
  - (ii) Their birthdays fall in the month of October?
  - (iii) Their birthdays fall on 10th day of the months?
  - (iv) Their birthdays fall in January or February?
- 8. Box A contains 25 slips of which 19 are marked ₹1 and other are marked ₹5 each. Box B contains 50 slips of which 45 are marked ₹1 each and others are marked ₹13 each. Slips of both boxes are poured into a third box and resuffled. A slip is drawn at random. What is the probability that it is marked other than ₹1?

- s 8 triangles of which 3 are blue and 10 squares of which 6 are blue One piece is lost at random. Find at is a: [4]
  - lue colour
  - red colour

Or

and Jack of clubs are removed from and then the remaining cards are ard is selected from the remaining cards. Find the probability of getting a card

- (i) of spade
- (ii) of black king
- (iii) of club
- ' (ii) of jacks
- 10. Spinning wheel game: Spinning wheel game has been a centre of attraction in a fairground.

Here is a spinning wheel set for raising fund to help needy people in a slum.

A person can spin once by paying ₹ 20 and win the item where pointer indicates after stop of wheel.



Attempt any four questions:

- (i) What is the probability to win a packet of [1] Namkin?
- (ii) What is the probability to win a cash prize? [1]
- (iii) (a) Anand spins the wheel once and wins a fruit drink. What is the probability that he would [2] get mango shake?

Or

(b) Shruti pays ₹ 20 and spins the wheel. What is the probability that she will not spin again?



## Assignment (Ch. 7)

(a) -4

ALONE MCQs:

the correct answer from the given four options: [NCERT Exemplar] The distance between the point P(2, 3) from the r-axis is (a) 2 (b) 3 (c) 1 (d) 5 The distance between the points A(0, 6) and B(0, -2) is (a) 6 (b) 8 (c) 4 (d) 2The distance of the point P(-6, 8) from the origin is (a) 8 (b) 27 (c) 10 (d) 6  $\sqrt{2}$  times the distance between (0, 5) and (-5, 0) is (b) 5√2 (a) 5 (c) 215 (d) 10 AOBC is a rectangle whose three vertices are vertices A(0, 3), O(0, 0) and B(5, 0). The length of its diagonal is (a) 5 (b) 3 (c) J34 (d) 4 The perimeter of a triangle with vertices (0, 4), (0, 4)0) and (3, 0) is  $(d) 7 + \sqrt{5}$ (c) 11 (a) 5 (b) 12 The points (-4, 0), (4, 0), (0, 3) are the vertices of a (a) right triangle (b) isosceles triangle (c) equilateral triangle (d) scalene triangle The point which divides the line segment joining the points (8, -9) and (2, 3) in ratio 1:2 internally lies in the (b) II quadrant (a) I quadrant (c) III quadrant (d) IV quadrant . The equation of the perpendicular bisector of line segment joining points A(4, 5) and B(-2, 3) is (a) 2x - y + 7 = 0(b) 3x + 2y - 7 = 0(c) 3x - y - 7 = 0(d) 3x + y - 7 = 0The fourth vertex D of a parallelogram ABCD whose three vertices are A(-2, 3), B(6, 7) and C(8, 3) is (a) (0, 1)(b) (0, -1) (c) (-1, 0) (d) (1, 0)I. If the point P(2, 1) lies on the line segment joining points A(4, 2) and B(8, 4), then (a)  $AP = \frac{2}{3}AB$ (b) AP = PB (c)  $PB = \frac{1}{3}AB$ (d)  $AP = \frac{1}{2}AB$ 

- 12. If P , 5 is the mid-point of the line segment joining the points Q(-6, 7) and R(-2, 3), then the value of m is
  - [SQP2020] (d) - 6
- (b) -12 (c) 12 13. The perpendicular bisector of the line segment joining the points A(1, 5) and B(4, 6) cuts the y-axis at (a) (0, 13) (b) (0, -13) (c) (0, 12) (d) (13, 0)
- 14. The coordinates of the point which is equidistant from the three vertices of the AAOB as shown in the Fig. 7.23 is



(a) 
$$(x, y)$$
 (b)  $(y, x)$  (c)  $\left(\frac{x}{2}, \frac{y}{2}\right)$  (d)  $\left(\frac{y}{2}, \frac{x}{2}\right)$ 

15. A circle drawn with origin as the centre passes through The point which does not lie in the interior of the circle is

$(a)\left(\frac{-3}{4},1\right)$	(b) $\left(2,\frac{7}{3}\right)$
$(c)\left(5,\frac{-1}{2}\right)$	$(d)\left(-6,\frac{5}{2}\right)$

- 16. A line intersects the y-axis and x-axis at the points P and Q, respectively. If (2, -5) is the mid-point of PQ, then the coordinates of P and Q are, respectively
  - (a) (0, -5) and (2, 0) (b) (0, 10) and (-4, 0)
  - (c) (0, 4) and (-10, 0) (d) (0, -10) and (4, 0)