



**QUESTION BANK**

**MULTIPLE CHOICE QUESTIONS (MCQs):**

**Directions:** In each of the questions 1 to 13, four options are given, out of which only one is correct. Choose the correct one.

**Q** Study the following frequency distribution table and answer the questions given below:

<i>Class interval Age (in years)</i>	<i>Number of persons</i>
15-20	12
20-25	20
25-30	42
30-35	20
35-40	6

**Question 1.** What is the size of the class intervals?

- (a) 5
- (b) 10
- (c) 15
- (d) 20.

**Question 2.** Which class has the highest frequency ?

- (a) 15-20
- (b) 20-25
- (c) 25-30
- (d) 35-40.

**Question 3.** Which class has the lowest frequency ?

- (a) 35-40
- (b) 30-35
- (c) 15-20
- (d) 25-30.

**Question 4.** Which two classes have the same frequency ?

- (a) 15-20 and 35-40
- (b) 20-25 and 30-35
- (c) 15-20 and 30-35
- (d) 20-25 and 25-30.

**Question 5.** What is the upper limit of the class interval 25-30 ?

- (a) 20
- (b) 25
- (c) 30
- (d) 35.

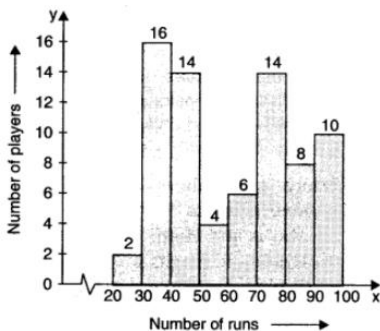
**Question 6.** What is the lower limit of the class interval 35-40 ?

- (a) 20
- (b) 25
- (c) 30
- (d) 35.

**Question 7.** The difference between the frequencies of the class intervals 20-25 and 30-35 is

- (a) 0
- (b) 10
- (c) 20
- (d) 5.

**Observe the histogram and answer the questions given below :**



**Question 8.** Which group contains maximum players ?

- (a) 20-30
- (b) 30-40
- (c) 40-50
- (d) 70-80.

**Question 9.** Which group has minimum players ?

- (a) 20-30
- (b) 50-60
- (c) 60-70
- (d) 30-40.

**Question 10.** Which two groups have the same number of players ?

- (a) 30-40 and 40-50
- (b) 20-30 and 30-40
- (c) 40-50 and 70-80
- (d) 80-90 and 90-100.

**Question 11.** How many players make runs 80 and above ?

- (a) 2
- (b) 8
- (c) 10
- (d) 18.

**Question 12.** How many players make runs less than 40?

- (a) 8
- (b) 2

- (c) 18
- (d) 10.

**Question 13.** How many players make runs 50 to less than 60 ?

- (a) 1
- (b) 2
- (c) 3
- (d) 4

**Answer the following questions:**

1. The following is the distribution of weights(in kg) of 52

Weights in kg	Persons
30-40	10
40-50	15
50-60	17
60-70	6
70-80	4

persons.

What is the lower limit of class 50 - 60?

Find the class marks of the

classes 40 -50, 50 - 60

What is the class size?

2. The Frequency distribution of daily income of 550 workers of a factory is given . Study the table and answer the questions given below :

Daily income in Rs	Frequency(No: of workers)
100-125	45
125-150	25
150-175	55
175-200	125
200-225	140
225-250	55
250-275	35
275-300	50
300-325	20
Total = 550	

What is the size of the class interval?

Which class has the highest frequency?

Which class has the lowest frequency?

What is the upper limit of the class interval 250-275?

3. The scale of shoes (in pairs) of a shop is given below. Consider the given table and answer the following :

Year	2004	2005	2006	2007	2008	2009
<b>Number of Shoes (in pairs)</b>	100	125	175	250	210	280

In which year was maximum number of shoes sold?

Find the number of shoes that were sold in the year 2006.

4. The following table shows the number of scooters produced in a factory during 5 months of

a year.

Months	Jan	Feb	Mar	Apr	Ma y
Number of Scooters	500	1100	800	1000	900

In which month was the maximum number of scooters manufactured ?

In which month was minimum number of scooters manufactured?

5. The following data gives the number of students of Delhi state who went abroad for study some years :

year	1995	1996	1997	1998	1999	2000
number of students	1400	1600	1250	1000	2000	2200

Represent the above data with the help of a bargraph

6. The population of major cities in India in a particular year is given below :

city	mumbai	kolkata	delhi	chennai
no of students	120	130	150	80

Construct a bar to represent the above data.

7. Following data gives total marks ( 6 out of 600) obtained by six children of a particular class. Represent the data by a bar graph.

Student	Ajay	Balan	Deepa	Faiyaz	Gopika	Hari
Marks obtained	450	500	400	360	550	530

8. The performance of students in 1st term and 2nd term is as given below. Draw a double bar graph choosing appropriate scale.

Subject	English	Hindi	Maths	Science	S.Science
1st term	67	72	88	81	73
2nd term	70	65	95	85	75

9. The following data gives the amount of loans (in crores of rupees) disbursed by a bank during some years. Represent the data with the help of a bar graph.

year	1992	1993	1994	1995	1996
loan (in crores of rupees)	28	33	55	55	80

10. The following data shows the average age of men in various countries in a certain year. Represent the above information by a bar graph.

country	India	Nepal	China	Pakistan	UK	USA
average age (in year)	55	52	60	50	70	75

11. A bag contains 8 red , 2 black and 5 white balls balls.

One ball is drawn at random, then what is the probability that the ball drawn is not black?

12. In a game of chance, the probability of winning is  $\frac{1}{4}$ . What is the probability of losing?

13. There are 25 tickets numbered 1 to 25 respectively. One ticket is

drawn at random

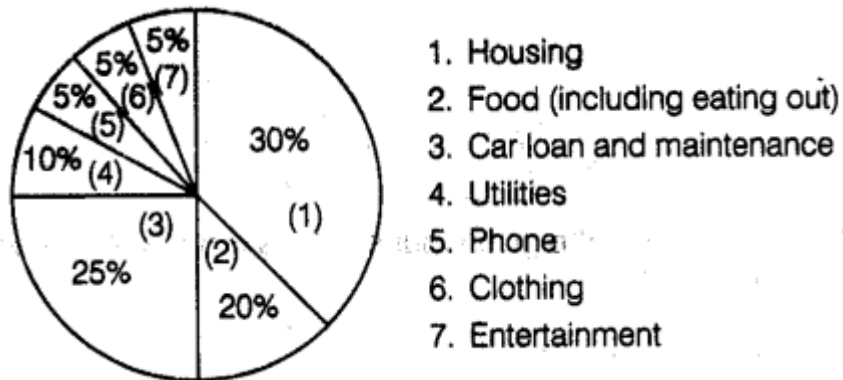
m, then what is the probability that the ticket drawn is a multiple of 3 or 5?

14. Find the probability that a non-leap year will have 53 Sundays?
15. A die was thrown 25 times and following scores were obtained:  
 1, 5, 2, 4, 3, 6, 1, 4, 2, 5, 1, 6, 2, 6, 3, 5, 4, 1, 3, 2, 3, 6, 1, 5, 2.  
 Prepare a frequency table of the scores.

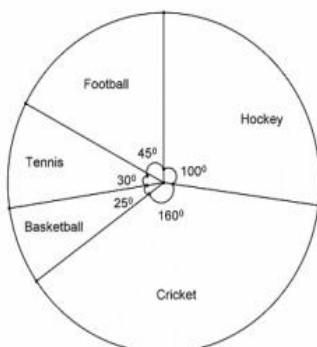
16. The following data gives the number of children in 40 families :  
 1, 2, 6, 5, 1, 5, 1, 3, 2, 6, 2, 3, 4, 2, 0, 0, 4, 4, 3, 2, 2, 0, 0, 1, 2, 2, 4, 3, 2, 1, 0, 5, 1, 2, 4, 3, 4, 1, 6, 2.  
 Represent it in the form of a frequency distribution.

17. Two unbiased coins are tossed simultaneously. Find the probability of getting:  
 Two heads  
 one head one tail  
 at least one head

18. A financial counsellor gave a client this pie chart describing how to budget his income. If the client brings home 50000 each month, how much should he spend in each category?



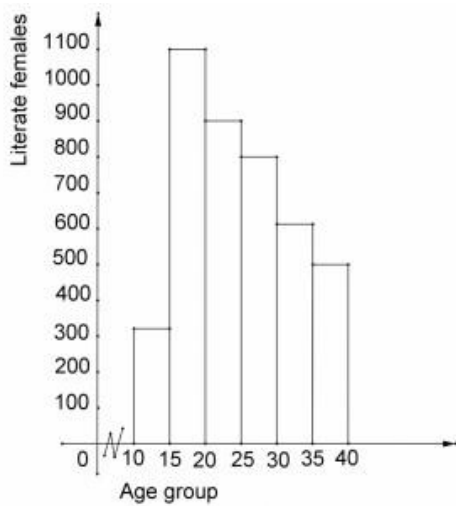
19.



What is the total amount spent on sports? How much amount is spent on hockey? What is the amount spent on cricket?

20

- The following histogram shows the number of literate females from the age group of 10 to 40 years in a town.



Write the age group in which the number of literate female is the highest? What is the class width?

What is the lowest frequency?

What are the class marks of the class 10-15?

21. The performance of students in 1st term and 2nd term is as given below. Draw a double bar graph choosing appropriate scale.

Subject	English	Hindi	Maths	Science	S.Science
1st term	67	72	88	81	73
2nd term	70	65	95	85	75

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## ARMY PUBLIC SCHOOL, AHMEDNAGAR

### CHAPTER 9: ALGEBRAIC EXPRESSIONS

**CLASS: VIII**

**SUBJECT: MATHEMATICS**

#### **Multiple Choice Question**

- The coefficient of  $x^2y$  in  $-15x^2y$  is  
a) -1                                      b) -5                                      c) -15                                      d) 15
- Find the number of terms in the expression.  $x^2y + yz + 2xy$   
a) 1                                      b) 2                                      c) 3                                      d) 4
- The common factors of the terms  $2y, 22xy$  is  
a) 2                                      b)  $2y$                                       c)  $y$                                       d)  $xy$
- The addition of  $ab - bc, bc - ca, ca - ab$  is  
(a)  $3ab + 3bc + 3ca$     (b) 0                                      (c)  $ab + bc + ca$                                       (d)  $ab - bc + ca$
- The value of  $3x(4x - 5) + 3$  for  $x=3$   
a) -6                                      b) -66                                      c) 106                                      d) 0
- Subtracting  $7x + y$  from  $-x + y$  gives  
a)  $6x + 2$                                       b)  $8x + 2y$                                       c)  $-8x$   
d)  $8x$

Short answer

- Using identity  $a^2 - b^2 = (a + b)(a - b)$ , find  $4^2 - 6^2$
- If  $ab = 6$  and  $a + b = 5$  then the value of  $(a^2 + b^2)$
- Add  $14x + 10y - 12xy - 13, 18 - 7x - 10y + 8xy, 4xy$
- What should be added to  $x^2 + xy + y^2$  to obtain  $2x^2 + 3xy$ ?
- Simplify the expressions and evaluate them as directed:  
 $3y(2y - 7) - 3(y - 4) - 63$  for  $y = -2$

**LONG ANSWER**

12. From the sum of  $3x - y + 11$  and  $-y - 11$ , subtract  $3x - y - 11$ .

13. What should be taken away from  $3x^2 - 4y^2 + 5xy + 20$  to obtain  $-x^2 - y^2 + 6xy + 20$ ?

14. Simplify:  $x^2 y(x \cdot y^2) \cdot xy^2(4xy \cdot 2x^2) \cdot x^3 y(1 \cdot 2 y)$

Q15 Take away  $\frac{7}{4}x^3 + \frac{3}{5}x^2 + \frac{1}{2}x + \frac{9}{2}$  from  $\frac{7}{2} - \frac{x}{3} - \frac{x^2}{5}$ .

Q16. If  $2x + 3y = 14$  and  $2x - 3y = 2$ , find the value of  $xy$ .

Q17. Subtract  $4p^2q - 3pq + 5pq^2 - 8p + 7q - 10$  from  $18 - 3p - 11q + 5pq - 2pq^2 + 5p^2q$

### COMPETENCY BASED QUESTION

Q18. Write any two polynomial whose difference is  $5r^2 - 8r$

Q19. A square garden measure  $y$  feet on each side. If the length of the garden increased

three times and the width is increased by 6 feet, then what will be the increase in area?

### APPLICATION BASED QUESTION

Q21

*Prove that*

$$2a^2 + 2b^2 + 2c^2 - 2ab - 2bc - 2ca = (a - b)^2 + (b - c)^2 + (c - a)^2$$

Q22. When the first polynomial is subtracted from the second polynomial,

the difference is  $4a^3 + 5a - 11$ . What will be the difference when the second

polynomial is subtracted from the first?





## ARMY PUBLIC SCHOOL, AHMEDNAGAR

### CHAPTER 14: FACTORIZATION

**CLASS: VIII**

**SUBJECT: MATHS**

### QUESTION BANK

- Find the common factors of the following terms:
  - $25x^2y, 30xy^2$
  - $63m^3n, 54mn^4$
- Factorize the following expressions:
  - $54m^3n+81m^4n^2$
  - $15x^2y^3z+25x^3y^2z+35x^2y^2z^2$
- Factorize the following polynomials:
  - $6p(p-3)+1(p-3)$
  - $14(3y-5z)^3+7(3y-5z)^2$
- State whether the following statements are true or false:
  - Factorized form of  $2x + 4$  is  $2(x + 2)$ .
  - $pq^2 + qr^2 + rs^2$  is a binomial.
  - The product of one negative and one positive term is a negative term.
  - The product of two negative term is a positive term.
- When we factorise an expression, we write it as a \_\_\_\_\_ of factors.
- Factorise  $6xy - 4y - 6 - 9x$ .
- Find the common factors of  $12x, 36$ .
- Factorise:  $49p^2 - 36$
- Factorise using identity:  $x^2 + 10x + 25$
- Factorise:  $(a + b)^2 - (a-b)^2$
- Factorise:  $ax^2 + by^2 + bx^2 + ay^2$
- Simplify:  $[10^2 - 18 \times 10 + 81]$
- Factorise:  $16a^2 - \frac{25}{4a^2}$
- Simplify:  $\frac{4m^2 - 169n^2}{2m+13n}$  (hint: using identity)
- Simplify:  $\frac{p^2+11p+28}{p+4}$
- Find x, if  $x(y-z) = \frac{4y^2 - 4z^2}{y+z}$

17. Find  $x$  and  $y$  such that  $xy = 72$ ,  $x + y = 17$ .
18. The area of a rectangle is  $6a^2 + 36a$  and its width is  $36a$ . Find its length.
19. The combined area of two squares is  $20 \text{ sq.cm}$ . Each side of one square is twice as long as a side of the other square. Find the length of the sides of each square.
20. Simplify:  $(xy + yz)^2 - (xy - yz)^2$



## ARMY PUBLIC SCHOOL, AHMEDNAGAR

### CHAPTER 15: INTRODUCTION TO GRAPHS

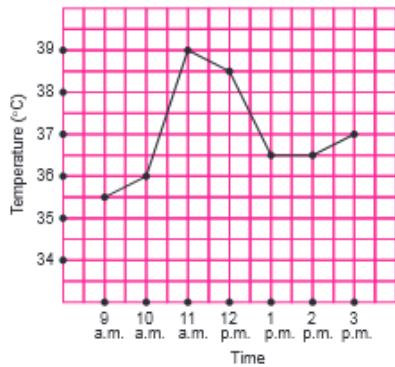
**CLASS: VIII**

**SUBJECT: MATHS**

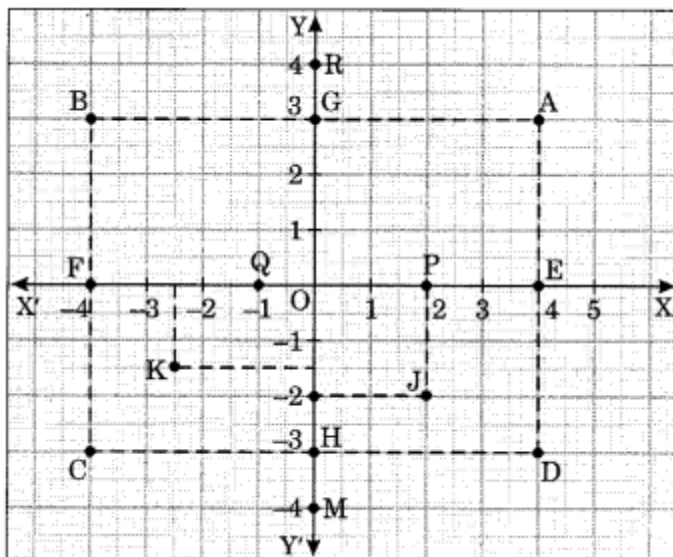
### QUESTION BANK

1. a. What is the name of the horizontal and vertical lines drawn to determine the position of any point in the Cartesian plane?  
b. Write the name of the point where the above two lines intersect?
2. Plot the following points on the graph:  
(5,0) (6,2) (0,0) (3,4) (5,6) (1,7)
3. Plot the points A (2,3) B (5,3) C (5,5) and D (2,5) on graph. Connect the points in that order so as to get a closed figure ABCD. What type of figure do you get?
4. Plot the points (2,2) (4,4) (6,6). Join these points in pairs. Do they lie on the line passing through the origin?
5. Say true or false: A point whose  $x$ -coordinate is zero, will lie on the  $y$ -axis.
6. Draw the line passing through (2,3) and (3,2). Find the coordinates of the points at which this line meets the  $x$ -axis?
7. A point whose  $x$  coordinate is zero and  $y$  coordinate is non-zero will lie on the  $y$ -axis. Is it true or false?
8. Plot any three points such that  $x$ - coordinate of each point is equal to its  $y$ - coordinate. Join these points in pairs.
9. A bank gives 10% simple interest (SI) on deposits by senior citizens. Draw a graph to illustrate the relation between the sum deposited and simple interest earned. Find from graph that how much annual interest obtainable for an investment of Rs. 250.

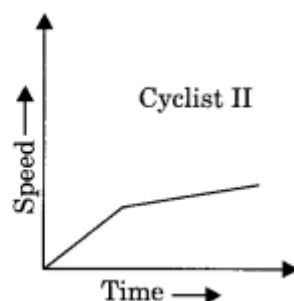
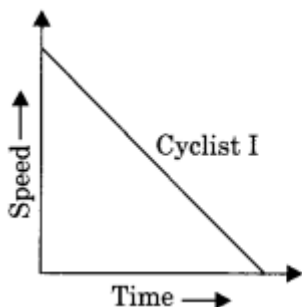
10. Locate the points A(1,2) B(3,4) and C(6,2) on a graph sheet taking suitable axes. Write the coordinates of the fourth point D to complete the rhombus ABCD. Measure the diagonals of this rhombus and find whether they are equal or not?



11. The graph shows the temperature of a patient recorded in a hospital every hour,
- What was the patient's temperature at 1 pm?
  - When was the patient's temperature  $38.5^{\circ}\text{C}$ ?
  - The patient's temperature was same two times during the period given. What were these two timings?
  - What was the temperature at 1.30pm? How did you arrive at your answer?



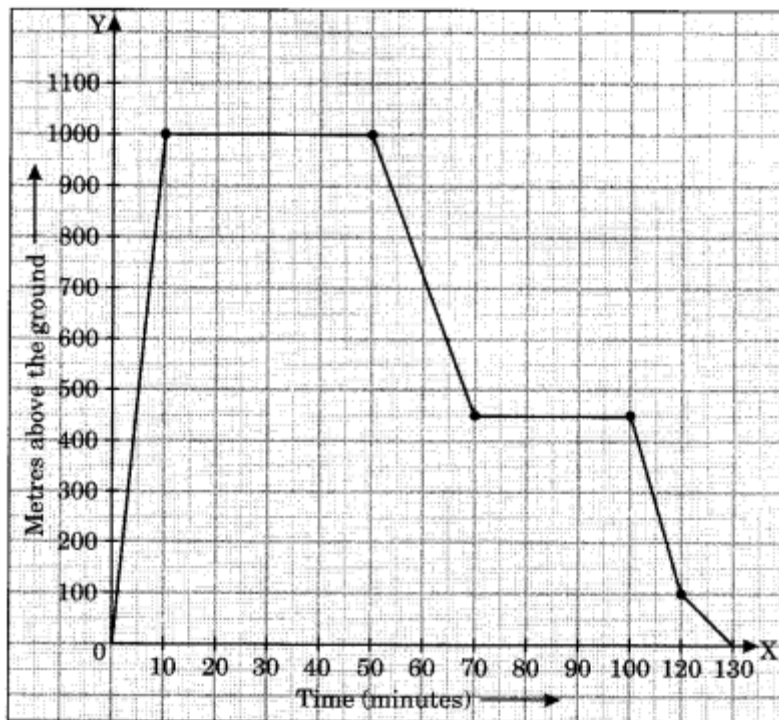
12. Write the coordinates of each point shown in the graph.



13. The given graphs show the progress of two different cyclists during a ride. For each graph, describe the rider's progress over the period of time.

Column A	Column B
(i) (0, 5)	(a) $y$ coordinate is $2 \times x$ -coordinate + 1
(ii) (2, 3)	(b) Coordinates of origin.
(iii) (4, 8)	(c) Only $y$ -coordinate is zero.
(iv) (3, 7)	(d) The distance from $x$ -axis is 5.
(v) (0, 0)	(e) $y$ coordinate is double of $x$ -coordinate.
(vi) (5, 0)	(f) The distance from $y$ -axis is 2.

14. Match the coordinates given in Column A with the items mentioned in Column B.
15. The given graph shows the flight of an aeroplane.



- What are the scales taken on  $x$ -axis and  $y$ -axis?
- Up to what height the aeroplane rises.
- What was the speed of the aeroplane while rising?
- How long was the plane in level flight?
- How long did the whole flight take?

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## Ch.11:- Mensuration

### QUESTION BANK

#### GRADE VIII

**Q.1 Choose the correct answer from the given four options.**

1) Area of a triangle is  $30 \text{ cm}^2$ . If its base is 10 cm then its height is

- a) 5cm                      b) 6 cm                      c) 7 cm                      d) 8cm

2) The perimeter of a square is 80 cm, then its area is

- a)  $800 \text{ cm}^2$     b)  $600 \text{ cm}^2$     c)  $400 \text{ cm}^2$     d)  $200 \text{ cm}^2$

3) Area of a parallelogram is  $48 \text{ cm}^2$ . If its height is 6 cm then its base is

- a) 8cm                      b) 4 cm                      c) 16cm                      d) None of these

4) If the length of diagonals of a rhombus is doubled, then area of rhombus will be

- a) doubled    b) tripled    c) four times    d) remains same.

5) If the lateral surface area of a cube is  $100 \text{ cm}^2$ , then its volume is

- a)  $25 \text{ cm}^3$     b)  $125 \text{ cm}^3$     c)  $625 \text{ cm}^3$     d) None of these

6) Area of a rhombus is  $90 \text{ cm}^2$ . If the length of one diagonal is 10 cm then the length of other diagonal is

- a) 18 cm    b) 9 cm                      c) 36 cm    d) 4.5 cm

7) Hypotenuse and base of a right angled triangle are 13cm and 5 cm find the area of the triangle

- a)  $12 \text{ cm}^2$     b)  $30 \text{ cm}^2$     c)  $24 \text{ cm}^2$     d)  $38 \text{ cm}^2$

8) The length and breadth of rectangular park are 50 m and 40m, respectively. Find its perimeter

- a) 90 m                      b) 180 m                      c) 200m                      d) None of these

9) Area of a Rhombus is  $256 \text{ cm}^2$ . One of the diagonal is half of the other diagonal. The sum of the diagonals is

- a) 38 cm    b) 48cm    c) 28 cm    d) 56 cm

10) A school hall has the dimensions 30m, 12m, and 6m. Find the number of children who can be accommodated, if each child should get  $8 \text{ m}^3$  of space.

- a) 240                      b) 270                      c) 250                      d) 150

11) A brick measures 20cm X 10 cm X 7.5 cm. How many bricks will be required for a wall of 20m X 2m X 0.75 m?

- a) 10000    b) 15000    c) 18000                      d) 20000

12) Volume of a cylinder is  $1848\text{cm}^3$ . If the diameter of its base is 14 cm, then the height of the cylinder is

- a) 12 cm      b) 6 cm      c) 3 cm      d) None of these

13) If the radius of a cylinder is doubled and height is halved then new volume is

- a) same      b) 2 times      c) 4 times      d) 8 times

14) If  $d$  is the diameter of a circle, then its area is

- a)  $\pi d^2$       b)  $\frac{\pi d^2}{2}$       c)  $\frac{\pi d^2}{4}$       d)  $2\pi d^2$

15) Area of four walls = Perimeter of floor X \_\_\_\_\_

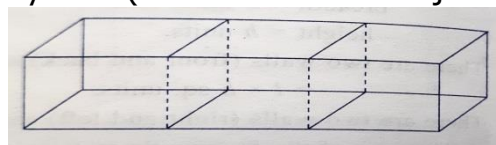
- a) length      b) breadth      c) height      d) None of these

**Q.2 Solve the following**

**2 Marks**

1) The area of a trapezium is  $540\text{ cm}^2$ . If the ratio of parallel sides is 7:5 and the distance between them is 18 cm, find the lengths of parallel sides.

2) Three cubes each of side 8 cm are joined together side by side ( as shown in the adjoining figure) to form a cuboid. Find the surface area of the cuboid.



3) A closed box is made of 2cm thick wood with external dimensions  $84\text{cm} \times 75\text{ cm} \times 64\text{ cm}$ . Find the volume of the wood required to make the box.

4) A cylindrical chocolate box has a radius of 5 cm and a height of 15 cm. How much paper is needed to wrap the box?

**Q.3 Solve the following**

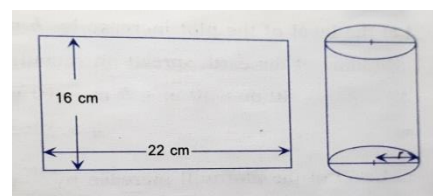
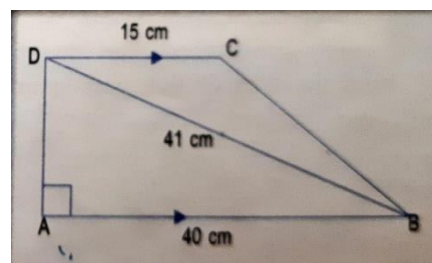
**3 marks**

1) The area of cross-section of a pipe is  $5.4\text{ cm}^2$  and water pumped out of it at the rate of 27 Km/hr. Find the volume of water which flows out of the pipe in one minute

2) If the radii of two circular cylinders are in the ratio 3:4 and their heights are in the ratio 6:5, find the ratio of their curved surfaces.

3) From the adjoining sketch, calculate

- 1) length AD
- 2) the area of trapezium ABCD
- 3) the area of triangle BCD



4) In the given figure, a rectangular tin foil of size 22 cm by 16 cm is wrapped to form a cylinder of height 16 cm. Find the volume of the cylinder

5) A wooden pole is 7m high and 20cm in diameter. Find its weight if the wood weighs 225 Kg per  $m^3$ .

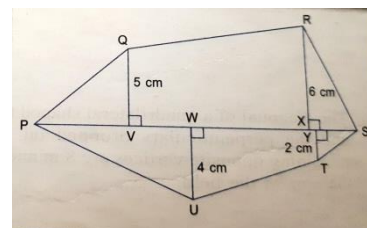
**Q.4 Answer the following**

**4 Marks**

1) A pit is dug in the shape of a cuboid with dimensions 10m x 8m x 3m. The earth taken out is spread evenly on a rectangular plot of land with dimensions 40m x 30 m. What is the increase in the level of the plot.

2) A cylindrical container is to be made if tin sheet. The height of the container is 1 m and its diameter is 70 cm. If the container is open at the top and the tin sheet costs Rs. 300 per  $m^2$ , find the cost of the tin sheet for making the container.

3) Find the area of polygon PQRSTU shown in adjoining figure. If  $PS=11cm$ ,  $PY=9cm$ ,  $PX=8cm$ ,  $PW=5cm$ ,  $PV=3cm$ ,  $QV=5cm$ ,  $UW=4cm$ ,  $RX=6cm$ ,  $TY=2cm$ .



4) An electric geyser is cylindrical in shape, having an outer diameter of 74 cm and the height 1.4 m. If the thickness of its wall is 2 cm, calculate i) its volume ii) its capacity

