

DAV BR PUBLIC SCHOOL, BINA
HALF YEARLY EXAMINATION Session (2024-25)
PRACTICE PAPER

Class: VIII
Time Allowed: 3 Hrs.

Subject: Maths
Maximum Marks: 80

SECTION - A (1x12=12)

- 1 If m and n are natural numbers $m^n = 8$, then find the value of n^m
- 2 Factorize: $125x^2 - 20y^2$
- 3 Write the distance of a point A (4,2) from y-axis.
- 4 If x and y vary inversely and $x = 25$, when $y=3$. Find y , when $x = 15$
- 5 Find the rate of VAT if an article marked at Rs. 5000 is sold for Rs. 5200?
- 6 Find the value of $(2x+5)^2$ by using identity -I
- 7 Find the cube root of 3375 by factorization.
- 8 How many non-square numbers are there in between 13^2 and 14^2 ?
- 9 By selling a bed sheet for Rs. 640, a shopkeeper earns a profit of 28%. How much did it cost the shopkeeper?
- 10 A transversal intersects two lines. Which condition would always make the two lines parallel?
- 11 **Assertion:** The point (4, 0) lies on y-axis.
Reason: The x - coordinate on the point on y-axis is not zero.
 - a) Both assertion and reason are correct and reason is the correct explanation for assertion.
 - b) Both assertion and reason are correct and reason is not the correct explanation for assertion.
 - c) Assertion is true but reason is false.
 - d) Both assertion and reason are false.
- 12 **Assertion:** The distance point P (2,3) from the x-axis is 3.
Reason: The distance from x-axis is equal to its ordinate.
 - a) Both assertion and reason are correct and reason is the correct explanation for assertion.
 - b) Both assertion and reason are correct but reason is not the correct explanation for assertion.
 - c) Assertion is true but the reason is false.
 - d) Both assertion and reason are false.

SECTION - B (2x4=8)

Read the information given in Q. No. 11 & 12 based on case studies carefully and then answer the questions.

11 In a book shop an old man observed that Radha purchased 1 dozen of pens and paid Rs. 156 to the shopkeeper. After that Suman came to the shop and bought 8 pens and 4 pencils. The shopkeeper told her that the price of a pencil was half of that of a pen. At last Rahul entered the shop and taken 3 pens and some pencils and paid Rs. 78 to the shopkeeper.

(i) The price of 1 pen is-

- a) Rs. 10 b) Rs. 11 c) Rs. 12 d) Rs. 13

(ii) Price of 1 pencil is-

- a) Rs. 4.50 b) 6.50 c) Rs. 5.50 d) Rs. 5

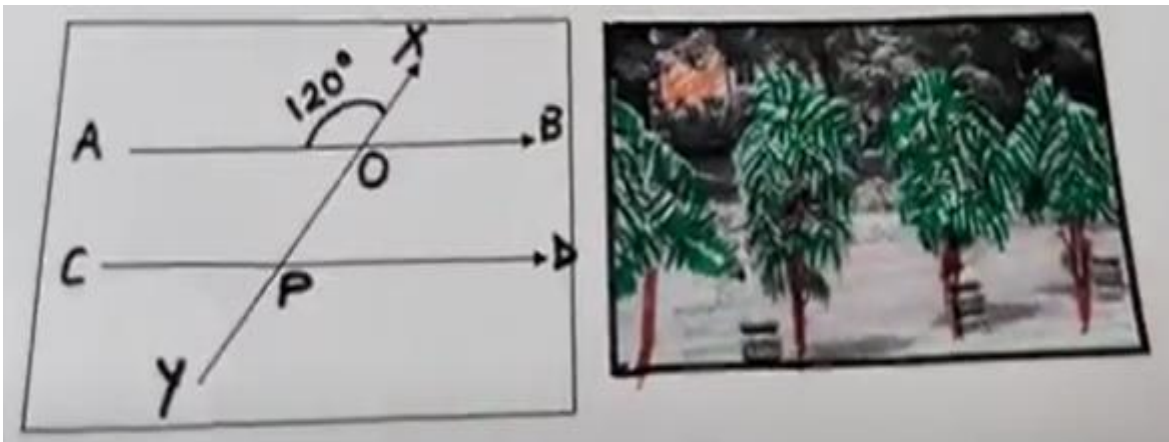
(iii) The amount paid by Suman to the shopkeeper is-

- a) Rs. 104 b) Rs. 126 c) Rs. 136 d) Rs. 130

(iv) The number of pencils Rahul bought is-

- a) 4 pencils b) 3 pencils c) 6 pencils d) 48 pencils

12 A farmer has a rectangular garden as shown in the picture. He has different types of trees, plant and flower plants in his garden. In the garden there are two mango trees A and B are tied by a rope of a length 10 m. Similarly, he has two Ashoka trees at the same distance of 10 m as shown at C and D. X and Y are two trees of guava planted in the garden. If X and Y are tied by a rope which intersects the two parallel ropes at O and P respectively. $\angle AOX = 120^\circ$



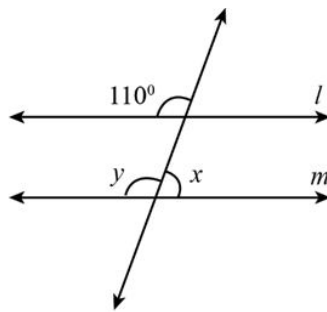
Answer the following questions, based on the above case study.

(i) The value of $\angle CPX$ is-

- a) 60° b) 120° c) 150° d) 50°
- (ii) The value of $\angle YPD$ is-
- a) 60° b) 70° c) 120° d) 40°
- (iii) If $\angle BOY = (2x + 5)$, then find the value of x .
- a) 50° b) 120° c) 55.7° d) 57.5°
- (iv) $\angle XOY = \angle XPD$. The reason for equality is-
- a) Corresponding angles b) Linear Pair of angles
c) Alternate interior angles d) Supplementary angles

SECTION - C (2x8=16)

- 13 Find the square root of 6561 by long division method.
- 14 The cost of 3 kg of sugar is Rs. 105. What will be the cost of 15 kg of sugar?
- 15 Find the cube root of $\frac{512}{343}$
- 16 Evaluate $(101)^2$ by using Identity I
- 17 Is 5,7,9 a Pythagorean triplet? Why?
- 18 Plot the following points on the graph paper: (5,0), (1,7) (3,4) and (6,2)
- 19 In the given figure, $l \parallel m$ and t is its transversal, find angles x and y .



- 20 Letters of alphabet are written on 26 separate slips and put in a bag. One slip is chosen from the bag. What is the probability of:
- a) Getting the letter Q?
b) Getting a vowel?

SECTION - D (3x8=24)

- 21 In a lecture hall, 8649 students are sitting in such a manner that there are as many students in a row as there are rows in a lecture hall. How many students are there in each row of the lecture hall?
- 22 Prove that if a number is tripled, then its cube is 27 times the cube of the given number.

- 23 From a well shuffled deck of 52 playing cards, write down the probability of getting the following when a card is drawn:
- An ace
 - A red 10
 - A diamond queen
- 24 A train 210 m long took 12 seconds to pass a 90m long tunnel. Find the speed of the train.
- 25 The quantity of petrol filled in a bike and the cost of petrol are given in the following table. Draw a graph to show this information.

Litre of petrol filled	5	8	10	15
Cost of petrol	250	400	500	750

- 26 Find the number whose cube is 1728.
- 27 Expand: $(-5x+2y+z)^2$
- 28 Factorise: $a^2 - 7a + 12$

SECTION - E (4x5=20)

- 29 While driving his car at a speed of 50km/hr., Ramit covers a distance from home to his office in 1 hour 30 minutes. One day he was 15 minutes late from his home. In order to reach office at time, what should be the speed of the car. Also, find the total distance covered by Ramit daily
- 30 A dealer buys bicycle for Rs.1250 and marks it at 40% above its cost price. If he allows 8% discount, find
- Selling price of the bicycle
 - Profit percentage
- 31 The number of trees of different fruits in an orchard are given below in percentage. Draw a pie chart for the data.

Tree	Mango	Pear	Guava	Papaya
No. of trees in percentage	50	20	20	10

- 32 Draw a line segment of length 5.5 cm. Divide it internally in the ratio 2:3. What is the length of each part?
(Write steps of construction)