

D. A.V PUBLIC SCHOOLS, ODISHA ZONE
PERIODIC ASSESSMENT-I, 2023-24

- Please check that this question paper contains 3 printed pages.
- Check that this question paper contains 17 questions.
- Write down the serial number of the question in the left side of the margin before attempting it.

CLASS-VIII
SUBJECT:-MATHEMATICS

Time- 1hr 30 minutes

Maximum Marks – 40

General instructions:

- I. The question paper consists of five sections.
 - Section I Question No. 1 to 6 are of 1 mark each (5 are MCQ Type and 1 Assertion reasoning type question).
 - Section II Question No.7 is Case Study Based Question which has 3 case-based sub-parts, two of them are MCQ type(1 mark each) and third subpart is a short answer type (2 marks) having internal choice.
 - Section III Question No. 8 to 11 are Short Answer type-I questions of 2 marks each.
 - Section IV Question No. 12 to 15 are Short Answer type - II questions of 3 marks each.
 - Section V Question No. 16 & 17 are Long Answer type questions of 5 marks each.
- II. In questions of constructions the drawing should be neat, clean and exactly as per the given measurements. Use ruler and compass only.
- III. All questions are compulsory. However, internal choice have been given in some questions.

SECTION-I

1. How many non-square numbers lie between 101^2 and 102^2 .
a) 204 b) 203 c) 202 d) 200
2. The hypotenuse of a right triangle with its legs of lengths 6p x 8p is
a) 5p b)10p c)16p d) 25p
3. $\sqrt[3]{0.027} \times \sqrt[3]{0.125}$ is equal to
a) 15 b) 1.5 c) 0.15 d) 0.015
4. Find the unit digit of the cube root of 13824
a) 2 b) 4 c) 6 d) 8
5. y varies directly to $\frac{1}{x}$.
a) y inversely varies with x b) y directly varies with x
c) y inversely varies with $\frac{1}{x}$ d) x varies directly with y

6. **DIRECTION:** In this Question, a statement of assertion (A) is followed by a statement of reason(R). **Choose the correct option.**

Assertion (A): The quantities x and y are inversely proportional to each other and $x = 25$ when $y = 3$. The value of $y = 5$ when $x = 15$.

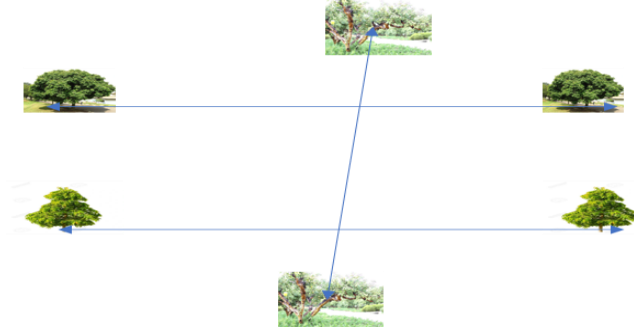
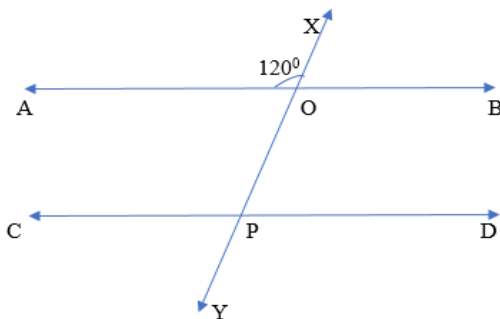
Reason(R): Two quantities are said to be in an inverse variation, if the value of one quantity increases, the value of other quantity decreases and vice-versa.

- a) Both A and R are true and R is the correct explanation of A.
- b) Both A and R are true but R is not the correct explanation of A.
- c) A is true and R is false.
- d) A is false and R is true.

SECTION-II

7. CASE STUDY:

A farmer had a rectangular garden. He has a different type of trees, plants 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 Ashok trees at the same distance of 10 m at C and D. X and Y are two trees of Guava plants. If X and Y tied by a rope which intersects the two parallel ropes at O and P respectively and $\angle AOX = 120^\circ$. Study the above information and answer the following questions.



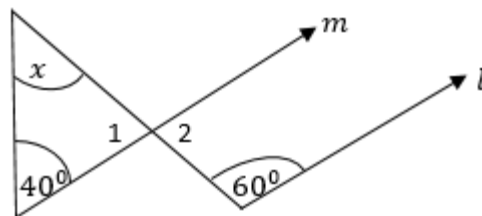
- (i) If $\angle BOY = 2x^\circ$, then find the value of x.
 - a) 60°
 - b) 120°
 - c) 100°
 - d) 30°
- (ii) Name the angle corresponding to $\angle CPY$
 - a) $\angle AOX$
 - b) $\angle BOP$
 - c) $\angle AOY$
 - d) $\angle XPD$
- (iii) Find the average of $\angle BOY$ and $\angle CPY$

OR

Find the sum of $\angle AOX$ and $\angle OPD$

SECTION-III

8. The surface area of a cube is 1176 cm^2 . Find its volume
9. If 56 men can do a piece of work in 42 days. How many men will do it in 14 days?
10. In the given figure, if $l \parallel m$, then find the value of x .



11. Evaluate $\sqrt[3]{340 + \sqrt{23 + \sqrt{64}}}$

OR

Find the smallest number by which 1029 should be divided so that the quotient is a perfect cube.

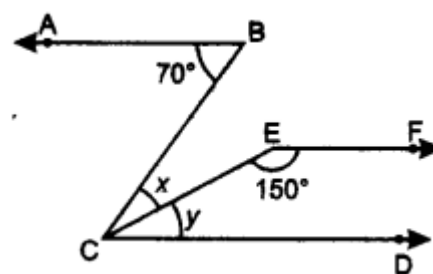
SECTION-IV

12. Find the least number that must be subtracted from 5607 to make it a perfect square.
13. A train 360 m long is running at a speed of 45 km/h. Find the time taken to cross a 140 m long bridge.
14. While driving his car at a speed of 50 km/hr., Yuvi 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, find the speed of the car?

OR

1000 soldiers in a fort had enough food for 20 days. But, some soldiers were transferred to another fort and the food lasted for 25 days. Find the number of soldiers transferred?

15. In the fig, if $AB \parallel EF$ and $EF \parallel CD$, then find the value of x .



SECTION-V

16. Draw a line segment $AB = 6.5 \text{ cm}$. Find a point P on it such that $AP = \frac{2}{5} AB$. Measure the length of each part.
17. The area of a square field is 5184 m^2 . A rectangular field whose length is twice its breadth has its perimeter equal to the perimeter of the square field. Find the length and breadth of the rectangle.

OR

The cost of levelling a square lawn at ₹15 per square metre is ₹ 20535. Find the cost of fencing the lawn at ₹ 22 per metre.