

KENDRIYA VIDYALAYA GACHIBOWLI , GPRA CAMPUS HYD - 32
REVISION TEST - 02 FOR BOARD EXAM 2021

Max. marks: 40

Time Allowed: 1½ hr

SECTION – A (1 MARK EACH)

1. If α, β are roots of $x^2 + 5x + a = 0$ and $2\alpha + 5\beta = -1$, then find the value of a .
2. If $p - 1, p + 3, 3p - 1$ are in AP, then find the value of p .
3. The perimeter of two similar triangles ABC and LMN are 60 cm and 48 cm respectively. If $LM = 8\text{cm}$, then what is the length of AB ?
4. The lengths of the diagonals of a rhombus are 30 cm and 40 cm. Find the side of the rhombus.
5. Find the 10th term of the AP 2, 7, 12, ...
6. The pair of equations $ax + 2y = 7$ and $3x + by = 16$ represent parallel lines, then find relation between 'a' and 'b'.

SECTION – B (2 MARKS EACH)

7. Form a quadratic polynomial, one of whose zero is $\sqrt{5}$ and the product of the zeroes is $-2\sqrt{5}$.
8. The sum of n terms of an AP is $5n^2 - 3n$. Find the AP and also its 10th term.
9. Two poles of height 7 m and 12 m stand on a plane ground. If the distance between their feet is 12 m, find the distance between their tops.

SECTION – C (3 MARKS EACH)

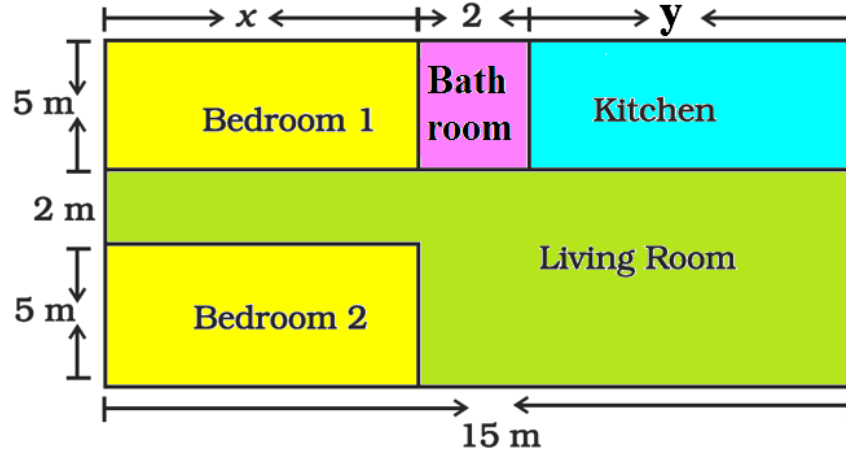
10. Find the HCF and LCM of 288, 360 and 384 by prime factorisation method.
11. Find the zeroes of the quadratic polynomial $6x^2 - 3 - 7x$ and verify the relationship between the zeroes and the coefficients of the polynomial.
12. Solve the following pairs of equations for x and y : $\frac{15}{x-y} + \frac{22}{x+y} = 5$, $\frac{40}{x-y} + \frac{55}{x+y} = 13$, $x \neq y$,
 $x \neq -y$
13. Solve for x : $2\left(\frac{x-1}{x+3}\right) - 7\left(\frac{x+3}{x-1}\right) = 5$; given that $x \neq -3$, $x \neq 1$
14. ABCD is a rectangle. Points M and N are on BD, such that $AM \perp BD$ and $CN \perp BD$. Prove that $BM^2 + BN^2 = DM^2 + DN^2$

SECTION – D (5 MARKS EACH)

15. Three sets of physics, chemistry and mathematics books have to be stacked in such a way that all the books are stored topic wise and the number of books in each stack is the same. The number of physics books is 192, the number of chemistry books is 240 and the number of mathematics books is 168. Determine the number of stacks of physics, chemistry and mathematics books.

CASE STUDY-BASED QUESTIONS (Each sub-question carries 1 mark)

16. In the below given layout, the design and measurements has been made such that area of two bedrooms and Kitchen together is 95 sq. m.



Based on the above information, answer the following questions: (Attempt any four)

- (i) Form the pair of linear equations in two variables from this situation.
 - (ii) Find the length of the outer boundary of the layout.
 - (iii) Find the area of each bedroom and kitchen in the layout.
 - (iv) Find the area of living room in the layout.
 - (v) Find the cost of laying tiles in Kitchen at the rate of Rs. 50 per sq. m
17. The production of TV sets in a factory increases uniformly by a fixed number every year. It produced 16000 sets in 6th year and 22600 in 9th year.



Based on the above information, answer the following questions: (Attempt any four)

- (i) Find the production during first year.
- (ii) Find the production during 8th year
- (iii) Find the production during first 3 years.
- (iv) In which year, the production is Rs. 29,200.
- (v) Find the difference of the production during 7th year and 4th year.

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