



MATHS

BOOKS - VGS BRILLIANT MATHS

(TELUGU ENGLISH)

**PROGRESSIONS (MULTIPLE CHOICE
QUESTION)**

Progressions Multiple Choice Question

1. A circle with area A , is contained in the interior of a larger with area $A_1 + A_2$. IF the radius of the larger circle is 3 units and A_1, A_2 and $(A_1 + A_2)$ are in A.P., then find the radius of smaller circle.....

A. $\sqrt{3}$ units

B. $\sqrt{2}$ units

C. Unity

D. None

Answer: A



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2. IF $x \neq y$ and the sequence x, a, a, y and x_1, b_1, b_2, y each are in A.P., then find the value of $\frac{a_2 - a_1}{b_2 - b_1} = \dots$

A. -1

B. 1

C. 2

D. -2

Answer: B



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3. If a, b , and c are in G.P., with $1 < a < b < x$ and $n > 1$ is an integer then find the sequence formed by $\log_a n, \log_b n, \log_c n, \dots$

A. A.P.

B. G.P.

C. H.P.

D. None

Answer: C



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4. IF x, y, z are positive integers (numbers)
then.....

A. $(x + y)(y + z)(z + x) = 8xyz$

B. $(x + y)(y + z)(z + x) < 8xyz$

C. $(x + y)(y + z)(z + x) = 0$

D. $(x + y)(y + z)(z + x) > 8xyz$

Answer: D



5. IF $S_1 + S_3 = K, S_2$, where S_1, S_2 and S_3 are the sum of 'n' terms of the series in A.P .The first term of each being one and the respective common difference being 1,2,3 then find $k=.....$

A. 2

B. -2

C. 1

D. 0

Answer: A



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6. Find the G.M. of the numbers 2,3 and 4.

A. $\sqrt{9}$

B. $(24)^{1/3}$

C. 24

D. $3/2$

Answer: B



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7. Find S_n of

$$\sqrt{2} + \sqrt{8} + \sqrt{18} + \sqrt{32} + \dots + n.$$

A. $(2-n)$

B. $\frac{\sqrt{2}}{n+1}$

C. $\frac{n(n+1)}{\sqrt{2}}$

D. 0

Answer: C



8. Find the co-efficient of x^{99} in the polynomial $(x-1)(x-2)(x-3)\dots\dots(x-100)$.

A. -2020

B. 2020

C. 5050

D. -5050

Answer: D



9. Find S, for the G.P. $\frac{-3}{4}, \frac{3}{16}, \frac{3}{64}, \dots\dots\dots$

A. $\frac{-3}{5}$

B. $\frac{-5}{3}$

C. $\frac{3}{5}$

D. $\frac{5}{3}$

Answer: A



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10. Find the sum of the infinity of the G.P.

$$5, \frac{20}{7}, \frac{80}{49}, \dots\dots\dots$$

A. $\frac{3}{35}$

B. $\frac{35}{3}$

C. $\frac{-3}{35}$

D. $\frac{-35}{3}$

Answer: B



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11. Which term of the series 1,2,4,8,..... is 256?

A. ∞

B. 19

C. 9

D. $-\infty$

Answer: C



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12. IF g_1, g_2, g_3 are three geometric means between "m" and "n". Then $g_1 \cdot g_3 = g_2^2 = \dots$

A. mn

B. m/n

C. $m-n$

D. m^n

Answer: A



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13. The sum of the first three terms of a G.P is $\frac{39}{10}$ and their product is one. Find the common ratio.

A. 1

B. $\frac{2}{5}$

C. 0

D. 5

Answer: B



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14. How many terms of a G.P. $3, 3^2, 3^3, \dots$ Are needed to give the sum 120?

A. 4

B. 3

C. -4

D. 5

Answer: A



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15. Find the sum of the first 8 terms of
3,6,12,24,.....

A. 567

B. 765

C. 675

D. None

Answer: B



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16. IF the A.M and G.M of two numbers are 13 and 12 respectively. Find the numbers.

A. 8,18

B. 8,9

C. 9,20

D. 1,2

Answer: A



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17. What is the G.M. of 6 and 24?

A. 21

B. 32

C. 36

D. 12

Answer: D



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18. Find the values of x so that $\frac{-2}{7}, x, \frac{-7}{2}$ are three consecutive terms of a G.P.

A. ± 1

B. ± 2

C. ± 3

D. ± 4

Answer: A



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19. The 5^{th} , 8^{th} and 11^{th} terms of a G.P. are p, q and s respectively. Then $q^2 = \dots\dots\dots$

A. ps

B. pr

C. p/s

D. p/r

Answer: A



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20. The product of two numbers is 91 and their A.M. is 10. Find the two numbers.

A. 12,13

B. 13,7

C. 13,14

D. None

Answer: B



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