



IMPORTANT QUESTIONS FOR SECTION B

IX MATH

1. Simplify: $\frac{2-6i}{3-i} - \frac{4+i}{3+i}$ or $(1+i)^4$
2. If $z_1 = -4 + 6i$ & $z_2 = \frac{5}{2} - 2i$, verify that : $\overline{z_1 + z_2} = \overline{z_1} + \overline{z_2}$
3. Solve by using logarithm: $\frac{99.87}{(8.369)(0.785)}$
4. Reduce each of the following into a single term :
$$\log_a 20 - \log_a 15 + \frac{1}{2} \log_a \frac{9}{2}$$
5. Find $x^3 + \frac{1}{x^3}$, if $x + \frac{1}{x} = 7$
6. find $a^2 + b^2 + c^2$, if $a + b + c = \frac{1}{3}$ and $ab + bc + ca = -\frac{2}{9}$
7. Simplify: $\sqrt{\frac{(216)^{\frac{2}{3}} \times (125)^{\frac{1}{2}}}{(0.04)^{-\frac{3}{2}}}}$
8. The opposite side of a parallelogram are congruent. Prove it
9. If $x = 3 - 2\sqrt{2}$, find $x^2 + \frac{1}{x^2}$
10. Find the factors by using factor theorem: $x^3 - x^2 + x - 1$
11. Find 'm' $9x^4 + 12x^3 + 34x^2 + mx + 25$ will be the perfect square.
12. Find the solution set and verify $\sqrt{4x + 5} = \sqrt{3x - 7}$
13. Find the solution set $\left| \frac{3x+6}{12} \right| + 1 = 3$, where $x \in \mathbb{Z}$
14. Find the solution set $\frac{y+5}{20} < \frac{25-4y}{10}$, $y \in \mathbb{N}$
15. Solve by quadratic formula: $10x^2 + 19x - 15 = 0$
16. Construct triangle PQR such that, $m\overline{PQ} = m\overline{QR} = 4.6\text{cm}$ and $m\angle q = 35^\circ$
17. Any point on a bisector of an angle is equidistant from its arms
18. The centre of circle is (3,4) and one of its end point of a diameter are A(4,6), find the point of other end.
19. Find x and y if, $\frac{\sqrt{5}x}{3} - \frac{3yi}{\sqrt{2}} = \frac{6\sqrt{3}}{\sqrt{2}} + \frac{2\sqrt{2}i}{9}$
20. The sum of the lengths of any two sides of a triangle is greater than the length of the third side. Prove it
21. Triangles on the same base and of the same altitude are equal in area.



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