

CBSE TEST PAPER

CLASS - IX Mathematics (Real Numbers)

Find three rational and three irrational numbers between the following:

1. 6.5 & 7.8
2. 2.3 & 3.2
3. $\frac{1}{7}$ & $\frac{2}{7}$
4. $\frac{\sqrt{3}}{2}$ & $\frac{\sqrt{5}}{2}$
5. Represent $\sqrt{5}$ on the number line .
6. Represent $\sqrt{3}$ on the number line .
7. Represent $\sqrt{8}$ on the number line .
8. Represent $\sqrt{9.5}$ on the number line .

Represent the following rational numbers in $\frac{p}{q}$ form :

9. $1.23\overline{7}$
10. $3.74\overline{5}$
11. $8.23\overline{27}$
12. $3.2\overline{38}$
13. Express $\frac{1}{11}$ in $\frac{p}{q}$ form and hence find the value of $\frac{5}{11}$.

Rationalize the denominator of the following :

14. $\frac{1}{\sqrt{8} + \sqrt{7}}$
15. $\frac{4 + 3\sqrt{5}}{4 - 3\sqrt{5}}$

16. $\frac{\sqrt{5} - 2}{\sqrt{5} + 2}$

17. $\frac{2\sqrt{6} - \sqrt{5}}{3\sqrt{5} - 2\sqrt{6}}$

Find the value of 'a' and 'b' if :

18. $\frac{\sqrt{5} - \sqrt{3}}{\sqrt{5} + \sqrt{3}} = a + b\sqrt{3}$

19. $\frac{\sqrt{2} + \sqrt{3}}{3\sqrt{2} - 2\sqrt{3}} = a + b\sqrt{6}$

20. $\frac{\sqrt{5} - \sqrt{3}}{\sqrt{5} + \sqrt{3}} = a + b\sqrt{3}$

21. $\frac{\sqrt{7} - 1}{\sqrt{7} + 1} - \frac{\sqrt{7} + 1}{\sqrt{7} - 1} = a + b\sqrt{7}$

22. Simplify : $5\sqrt{3} + 2\sqrt{27} + \frac{1}{\sqrt{3}}$

23. Simplify : $3\sqrt{147} - \frac{7}{3}\sqrt{\frac{1}{3}} + 7\sqrt{\frac{1}{3}}$

24. Rationalize the denominator : $\frac{1}{\sqrt{6} + \sqrt{5} - \sqrt{11}}$