Class 09 Number System CBSE Guess Questions

Q. 1 Find the value of each of the following

    i. $16^{3/4}$ ii. $125^{-1/3}$ iii. $5^{3/2}.7^{3/2}$

Q. 2 Find five rational number between $\frac{3}{7}$ and $\frac{4}{7}$

Q. 3 Divide in each of the following

    i. $\sqrt{162}$ by $\sqrt{2}$ ii. $\sqrt[7]{10}$ by $\sqrt[7]{2}$

Q. 4 Express 0.6 in the form $\frac{p}{q}$, where p and q are integers and q≠0.

Q. 5 Simplify each of the following:

    i. $7\sqrt{2} + 5\sqrt{8}$

    ii. $15\sqrt{6} - \sqrt{216}$

    iii. $8\sqrt{45} - 8\sqrt{20} + \sqrt{245} - 3\sqrt{125}$

Q. 6 Evaluate each of the following:

    i. $5^{3/2}.7^{3/2}$ ii. $\dfrac{11^{5/2}}{11^{3/2}}$

Q. 7 Rationalise the denominators of the following

    i. $\dfrac{1}{\sqrt{7} - \sqrt{6}}$ ii. $\dfrac{1}{\sqrt{5} + \sqrt{2}}$

Q. 8 Simplify: $[5^2(8^{\frac{1}{3}} + 27^{\frac{1}{3}})^3]^{1/5}$

Q. 9 Show that 0.3333…=0.3 can be expressed in the form of p/q, where p and q are integer sand q is ≠ 0

Q. 10   Find the values of 'a' and 'b' if $\dfrac{1}{7 + 3\sqrt{2}} = a + b\sqrt{2}$

Q. 11   Show that 1.272727… can be expressed in the form of $\dfrac{p}{q}$ where p and q are integers and q ≠ 0.

Q. 12   Rationalise the denominator of each of the following

    i. $\dfrac{\sqrt{3}+1}{\sqrt{3}-1}$ ii. $\dfrac{1}{1+\sqrt{2}-\sqrt{3}}$ iii. $\dfrac{1}{\sqrt{3}+\sqrt{2}-\sqrt{5}}$

Q. 13   If $a = 6 - \sqrt{35}$, find the value of $a^2 + 1/a^2$

Q. 14   If $x = 3 + 2\sqrt{2}$ find the value of (i) $x^2 + \frac{1}{x^2}$ (ii) $x^4 + \frac{1}{x^4}$

Q. 15   Simplify each of the following

    i. $\dfrac{7 + 3\sqrt{5}}{3 + \sqrt{5}} - \dfrac{7 - 3\sqrt{5}}{3 - \sqrt{5}}$ ii. $\dfrac{\sqrt{5}-2}{\sqrt{5}+2} - \dfrac{\sqrt{5}+2}{\sqrt{5}-2}$

    iii. $\dfrac{2\sqrt{6}}{\sqrt{2}+\sqrt{3}} + \dfrac{6\sqrt{2}}{\sqrt{6}+\sqrt{3}} - \dfrac{8\sqrt{3}}{\sqrt{6}+\sqrt{2}}$

Q. 16   If $\dfrac{3+2\sqrt{2}}{3-\sqrt{2}} = x + y\sqrt{2}$, find x and y where x and y are rational numbers.

Q. 17   If $\dfrac{5+2\sqrt{3}}{7+4\sqrt{3}} = a - \sqrt{3}, b$ find a and b where a and b are rational numbers.