

1. If $X = \frac{4}{(\sqrt{5}+1)(\sqrt[4]{5}+1)(\sqrt[8]{5}+1)(\sqrt[16]{5}+1)}$. Then the value of $(1+x)^{48}$ is -
 (a) 5 (b) 25
 (c) 125 (d) 625
2. The value of $1.\overline{285714} \div 1.\overline{714285} = \underline{\hspace{2cm}}$.
 (a) $\frac{3}{4}$ (b) $\frac{7}{8}$
 (c) $\frac{7}{12}$ (d) $\frac{3}{7}$
3. Find the square root of $10 + \sqrt{24} + \sqrt{60} + \sqrt{40}$
4. Let $x = 1 + \frac{1}{2 + \frac{1}{1 + \frac{1}{2 + \frac{1}{1 + \frac{1}{2 + \dots}}}}}$ then the value of $(2x - 1)^2$ equals
5. $x = \frac{1}{\sqrt{2-\sqrt{3}}}$ and $y = \frac{1}{\sqrt{2+\sqrt{3}}}$ then the value of $(x - y)^2$ equals
6. Let $n = \sqrt{6 + \sqrt{11}} + \sqrt{6 - \sqrt{11}} - \sqrt{22}$, then
 (a) $n \geq 1$ (b) $0 < n < 1$
 (c) $n = 0$ (d) $-1 < n < 0$
7. If $(\sqrt{5\sqrt{2} - 7})^x + 6(\sqrt{5\sqrt{2} + 7})^x = 7$, then the value of x can be equal to
 (a) 0 (b) $\log_{(5\sqrt{2}-7)} 36$
 (c) $\frac{-2}{\log_6(5\sqrt{2}+7)}$ (d) $\log_{\sqrt{5\sqrt{2}-7}} 6$
8. The equivalent rational form of $17.\bar{6}$ is
 (a) $\frac{53}{3}$ (b) $\frac{88}{5}$
 (c) $\frac{44}{25}$ (d) None of these
9. Let $T = \frac{1}{3-\sqrt{8}} - \frac{1}{\sqrt{8}-\sqrt{7}} + \frac{1}{\sqrt{7}-\sqrt{6}} - \frac{1}{\sqrt{6}-\sqrt{5}} + \frac{1}{\sqrt{5}+2}$ then -
 (a) $T < 1$ (b) $T = 1$
 (c) $1 < T < 2$ (d) $T < 2$
10. The expression $\sqrt{12 + 6\sqrt{3}} + \sqrt{12 - 6\sqrt{3}}$ simplifies to
 (a) 4 (b) $2\sqrt{3}$
 (c) $3\sqrt{3}$ (d) 6

ANSWER KEY

- | | | | | |
|--------|-------------------------------------|--------|-----------------|---------|
| 1. (c) | 3. $\sqrt{2} + \sqrt{3} + \sqrt{5}$ | 5. (2) | 7. (a, b, c, d) | 9. (b) |
| 2. (a) | 4. (3) | 6. (c) | 8. (a) | 10. (d) |

