

1. Solve $(\frac{\sqrt{25}}{\sqrt{9}} - \frac{\sqrt{64}}{\sqrt{81}}) \div (\frac{\sqrt{16}}{\sqrt{324}}) = ?$

- (A) 4.5 (B) 2.5 (C) 1.5 (D) 3.5

2. The square root of $((7+3\sqrt{5})(7-3\sqrt{5}))$ is:

- (A) $\sqrt{5}$ (B) 2 (C) 4 (D) $(3\sqrt{5})$

3. $(\sqrt{3} - \frac{1}{\sqrt{3}})^2$ Simplifies to:

- (A) $\frac{3}{4}$ (B) $\frac{4}{\sqrt{3}}$ (C) $\frac{4}{3}$ (D) none of these

4. $\sqrt{1.5625} = ?$

- (A) 1.05 (B) 1.25 (C) 1.45 (D) 1.55

5. Evaluate: $\sqrt{41 - \sqrt{21 + \sqrt{19 - \sqrt{9}}}}$

- (A) 3 (B) 5 (C) 6 (D) 6.4

6. If $0.13 \div p^2 = 13$, then p equals:

- (A) 0.01 (B) 0.1 (C) 10 (D) 100

7. If $\sqrt{4096} = 64$, then the value of $(\sqrt{40.96}) + (\sqrt{0.4096}) + (\sqrt{0.004096}) + (\sqrt{0.00004096})$ up to two places of decimals is

- (A) 7.09 (B) 7.10 (C) 7.11 (D) 7.12

8. What is $(\frac{5 + \sqrt{10}}{5\sqrt{5} - 2\sqrt{20} - \sqrt{32} + \sqrt{50}}) = ?$

- (A) 5 (B) $5\sqrt{2}$ (C) $5\sqrt{5}$ (D) $\sqrt{5}$

9. The approximate value of $(\frac{3\sqrt{12}}{2\sqrt{28}}) \div \frac{2\sqrt{21}}{\sqrt{98}}$ is:

- (A) 1.0605 (B) 1.0727 (C) 1.6007 (D) 1.6026

10. $(\left[\frac{3\sqrt{2}}{\sqrt{6} - \sqrt{3}} - \frac{4\sqrt{3}}{\sqrt{6} - \sqrt{2}} - \frac{6}{\sqrt{8} - \sqrt{12}} \right] = ?)$

- (A) $\sqrt{3} - \sqrt{2}$ (B) $\sqrt{3} + \sqrt{2}$ (C) $5\sqrt{3}$ (D) 1

11. The least perfect square, which is divisible by each of 21, 36 and 66, is:

- (A) 213444 (B) 214344 (C) 214434 (D) 231444

12. What is the least number which should be subtracted from 0.000326 to make it a perfect square?

- (A) 0.000002 (B) 0.000004 (C) 0.02 (D) 0.04

13. How many two-digit numbers satisfy this property: the last digit (unit's digit) of the square of the two-digit number is 8?

- (A) 1 (B) 2 (C) 3 (D) none of these

14. If $(\sqrt{x + \frac{x}{y}}) = x(\sqrt{\frac{x}{y}})$, where x and y are positive real numbers, then y is equal to

- (A) x+1 (B) x-1 (C) $(x^2)+1$ (D) $(x^2)-1$

15. A man bought some eggs of which 10% are rotten. He gives 80% of the remainder to his neighbors. Now he is left out with 36 eggs. How many eggs he bought?

- (A) 40 (B) 100 (C) 200 (D) 72

16. While solving a mathematical problem, Samidha squared a number and then subtracted 25 from it rather than the required i.e., first subtracting 25 from the number and then squaring it. But she got the right answer. What was

the given number?

(A) 13 (B) 38 (C) 48 (D) Cannot be determined

17. $\frac{\sqrt{3+x} + \sqrt{3-x}}{\sqrt{3+x} - \sqrt{3-x}} = 2$. Then x is?

(A) $\frac{5}{7}$ (B) $\frac{7}{5}$ (C) $\frac{5}{12}$ (D) $\frac{12}{5}$

18. If $x = \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} - \sqrt{3}}$ and $y = \frac{\sqrt{5} + \sqrt{3}}{\sqrt{5} + \sqrt{3}}$ then $x+y$ is

(A) $2(\sqrt{5} + \sqrt{3})$ (B) $2\sqrt{15}$ (C) 8 (D) 16

19. A mobile company offered to pay the Indian Cricket Team as much money per run scored by the side as the total number it gets in a one-dayer against Australia. Which one of the following cannot be the total amount to be spent by the company in this deal.

(A) 21,904 (B) 56,169 (C) 1,01,761 (D) 1,21,108

20. If the product of four consecutive natural numbers increased by a natural number p, is a perfect square, then the value of p is

(A) 1 (B) 2 (C) 4 (D) 8
