

PRACTICE TEST OF TOP RANK

TEST OF REASONING & MENTAL ABILITY - NO.8

1. How many 4's are there in the sequence which are immediately followed by 1 and preceded by 0
 3 3 1 0 4 1 2 4 0 1 1 4 0 3 0 4 1 0 2 1 0 4 1 0 4 1 1 4 0 0 4 1 3
 A. three B. four C. five D. less than three E. None of these
2. How is David's father's only daughter-in-law's son's wife related to David ?
 A. Daughter B. Daughter-in-law C. Niece D. Grand daughter E. None of these
3. Mr. Madhavan travels 5 km towards west, turns left and travels 3 km and then travels another 5 km towards South. He then turns right and travels 1 km to reach a Park. How far is the park from his starting position ?
 A. 8 B. 10 C. 12 D. 14 E. None of these
4. If GO = 32, SHE = 49, then SOME will be equal to _____
 A. 56 B. 58 C. 62 D. 64
5. What number should be divided by $\sqrt{0.25}$ to give the result as 25 ?
 A. 12.5 B. 25 C. 50 D. 1.25 E. None of these
6. If $\frac{x^2 - 1}{x + 1} = 4$, $x = ?$
 A. 0 B. 1 C. cannot be determined E. None of these
 D. None of these E. 5
7. What is the square root of 0.0009 ?
 A. 0.003 B. 0.03 C. 0.0003 D. None of these E. 0.00032
8. $\sqrt[3]{0.000064}$
 A. .02 B. .2 C. 2 D. None of these E. 0.002
9. Complete the below series
 123, 369, 91827, 275481, 81162243, _____
 A. 243486729 B. 243968927 C. 342689279 D. 432986279 E. None of these
10. Find the odd one among the following
 A. wade B. jog C. Hop D. walk E. None of these
11. If $\sqrt{2^x} = 256$. Then find the value of x ?
 A. 14 B. 16 C. 18 D. 20 E. None of these
12. The sum of ages of a father and a son presently is 70 years. After 10 years, the son's age is exactly half that of father's what are their ages now ?
 A. 45 years, 25 years B. 50 years, 20 years
 C. 47 years, 23 years D. 50 years, 25 years E. None of these
13. Which of the following will be the ratio of a number and the number obtained by adding its $\frac{5}{3}$ to it ?
 A. 3 : 5 B. 5 : 3 C. 8 : 3 D. 3 : 8 E. None of these
14. Hard work is related to success in the same way as Laziness is related to _____
 A. Achieve B. Disappointment C. Failure D. Lethargy
15. In a certain code SHORT is written as 12345 and TEAR is written as 5674. How is HEART written in that code ?
 A. 27645 B. 27654 C. 26745 D. 26754 E. None of these
16. What will be the area of a Semi-circle of 14 m diameter ?

- A. 22 m² B. 77m² C. 154 m² D. 308 m²
E. None of these

17. If $\frac{1}{5} \div \frac{1}{x} = \frac{1}{x} \div \frac{1}{125}$, then the value of x is _____

- A. 1.5 B. 2 C. 2.5 D. 3.5
E. None of these

18. If 'R' denotes ' \div ', 'T' denotes ' $-$ ', 'M' denotes ' $+$ ' and 'W' denotes ' \times ', then,

$$27 \text{ T } 15 \text{ R } 3 \text{ W } 4 \text{ M } 6 = ?$$

- A. 7 B. 13 C. 23 D. 1
E. None of these

19. Which of the following is the middle digit of the third highest among the five three-digit numbers given below ?

368 931 472 715 647

- A. 6 B. 3 C. 7 D. 1
E. 4

20. Find the missing number in the following series.

7, 26, 63, 124, 215, 342, _____

- A. 481 B. 511 C. 391 D. 421
E. None of these

21. If apple is called orange, orange is called Butter, Butter is called Mango, Mango is called Guava and Guava is called mustard in a certain language, which of the following is a produce of milk ?

- A. Butter B. Mustard C. Guava D. Mango
E. None of these

22. A woman introduces a man as the son of brother of her mother. How is the man related to the woman ?

- A. Son B. Cousin C. Nephew D. Grandson
E. Uncle

23. $24^{35} \div 24 = 24^?$

- A. 2.5 B. 3.5 C. 2 D. 3
E. None of these

24. Complete the series below :-

6, 15, 35, 77, 143, _____

- A. 119 B. 230 C. 221 D. None of these

E. Cannot be determined

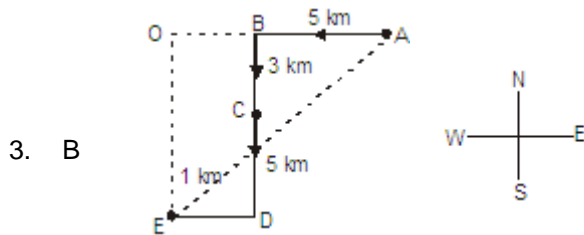
25. Which one is odd among the following ?

- A. 1000 B. 25000 C. 27000 D. 8000
E. None of these

ANSWER WITH EXPLANATION

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1. C 3 3 1 0 4 1 2 4 0 1 1 4 0 3 0 4 1 0 2 1 0 4 1 0 4 1 1 4 0 0 4 1 3
2. B David's father's only daughter - in - law is
David's wife.
David's wife's son is David's son.
David's son's wife is David's daughter-in-law



We have to find AE

In $\triangle AOE$,

$$\begin{aligned} AE &= \sqrt{AO^2 + OE^2} \\ &= \sqrt{6^2 + 8^2} \\ &= \sqrt{36 + 64} \\ &= \sqrt{100} = 10 \end{aligned}$$

$$\begin{aligned} AO &= AB + BO \\ &= 5 + DE \\ &= 5 + 1 = 6 \\ OE &= BC + CD \\ &= 3 + 5 = 8 \end{aligned}$$

4. A. In the given code, put $z = 1$, $y = 2$, $x = 3$, -----, $C = 24$, $B = 25$, $A = 26$
 $\therefore GO = 20 + 12 = 32$
 $SHE = 8 + 19 + 22 = 49$
 $\therefore SOME = 8 + 12 + 14 + 22 = 56$
5. A Let the number be x .

$$\text{Then, } \frac{x}{\sqrt{0.25}} = 25$$

$$\Rightarrow \frac{x}{0.5} = 25$$

$$\Rightarrow \underline{\underline{x = 12.5}}$$

6. E $\frac{x^2 - 1}{x + 1} = 4$
 $\Rightarrow \frac{(x + 1)(x - 1)}{x + 1} = 4$
 $\Rightarrow x - 1 = 4$
 $\Rightarrow \underline{\underline{x = 5}}$

$$7. \quad B \quad \sqrt{0.0009} = \sqrt{\frac{9}{10000}} = \frac{3}{100} = .03$$

$$8. \quad B \quad \sqrt{.000064} = \sqrt{\frac{64}{10^6}} = \frac{8}{10^3} = \frac{8}{1000} = .008$$

$$\therefore \sqrt[3]{\sqrt{.000064}} = \sqrt[3]{.008} = \sqrt[3]{\frac{8}{1000}} = \frac{2}{10} = .2$$

9. A The given series is,

$$\left(\begin{array}{c} \text{1} \text{ 2} \text{ 3} \\ \text{1} \text{ 2} \text{ 3} \end{array} \Rightarrow \begin{array}{c} \text{3} \text{ 6} \text{ 9} \\ \text{3} \text{ 6} \text{ 9} \end{array} \Rightarrow \begin{array}{c} \text{9} \text{ 18} \text{ 27} \\ \text{9} \text{ 18} \text{ 27} \end{array} \Rightarrow \begin{array}{c} \text{27} \text{ 54} \text{ 81} \\ \text{27} \text{ 54} \text{ 81} \end{array} \Rightarrow \begin{array}{c} \text{81} \text{ 162} \text{ 243} \\ \text{81} \text{ 162} \text{ 243} \end{array} \Rightarrow \underline{\underline{243486729}} \right)$$

Multiply each number by 3 \rightarrow we get next series

10. C Except Hop, all others are different types of walking or moving.

$$11. \quad B \quad \sqrt{2^x} = 256$$

$$\Rightarrow 2^{\frac{x}{2}} = 2^8$$

$$\Rightarrow \frac{x}{2} = 8$$

$$\Rightarrow \underline{\underline{x = 16}}$$

$$\left(\begin{array}{l} \sqrt{a} = a^{\frac{1}{2}} \\ a^m = a^n \Rightarrow m = n \end{array} \right)$$

12. B Suppose present age of son = x years and father = y years.

$$\therefore x + y = 70 \rightarrow (1)$$

According to question,

$$x + 10 = \frac{y + 10}{2}$$

$$2(x + 10) = y + 10$$

$$\Rightarrow 2x - y = -10 \rightarrow (2)$$

from equal (1) & (2),

$$x = 20$$

$$\therefore \underline{\underline{y = 50}}$$

13. D Let the number be A

$$\therefore \frac{A}{A + \frac{5}{3}A} = \frac{A}{\frac{3A + 5A}{3}} = \frac{3A}{8A} = \frac{3}{8} \Rightarrow 3:8$$

14. C

$$15. \quad C \quad \begin{array}{cccccccc} S & H & O & R & T & T & E & A & R & \dots & H & E & A & R & T \\ 1 & 2 & 3 & 4 & 5 & 5 & 6 & 7 & 4 & & 2 & 6 & 7 & 4 & 5 \end{array}$$

$$16. \quad B \quad \text{Area of semi-circle} = \frac{\pi R^2}{2}$$

$$= \frac{1}{2} \times \frac{22}{7} \times 7 \times 7 \quad \left(\pi = \frac{22}{7} \right)$$

$$= \underline{\underline{77m^2}}$$

17. C $\frac{1}{5} : \frac{1}{x} = \frac{1}{x} : \frac{1}{1.25}$ $\left(a : b = c : d \right)$
 $\Rightarrow bc = ad$

$$\Rightarrow \frac{1}{x} \times \frac{1}{x} = \frac{1}{5} \times \frac{1}{1.25}$$

$$\Rightarrow \frac{1}{x^2} = \frac{1}{5} \times \frac{100}{125}$$

$$\Rightarrow x^2 = \frac{25}{4}$$

$$\Rightarrow x = \frac{5}{2} = \underline{\underline{2.5}}$$

18. B $27 - 15 \div 3 \times 4 + 6$

$$= 27 - 15 \div 3 \times 4 + 6$$

$$= 27 - 5 \times 4 + 6$$

$$= 27 - 20 + 6 = 33 - 20 = \underline{\underline{13}}$$

[BODMAS RULE]

19. E $931 > 715 > 647 > 472 > 368$

20. B The given series is

$$(2^3 - 1), (3^3 - 1), (4^3 - 1), \dots (8^3 - 1)$$

$$8^3 - 1 = 512 - 1 = \underline{\underline{511}}$$

21. D Clearly Butter is a product of milk and here Butter is Mango

22. B. Brother of her mother - uncle Uncle's son = Cusin

23. A $24^{3.5} \div 24 = 24^?$ $(a^m \div a^n = a^{m-n})$

$$24^{(3.5-1)} = 24^?$$

$$24^{2.5} = 24^?$$

$$\therefore ? = \underline{\underline{2.5}}$$
 $(a^m = a^n)$
 $\Rightarrow m = n$

24. C $6 \mid 15 \mid 35 \mid 77 \mid 143 \mid 221$
 $2 \times 3 \mid 3 \times 5 \mid 5 \times 7 \mid 7 \times 11 \mid 11 \times 13 \mid 13 \times 17$

(Multiply 2 successive prime numbers)

25. B $1000 = 10^3$

$$27000 = 30^3$$

$$8000 = 20^3$$

Where as 25000 is not a perfect cube.