



INSTITUTE OF MATHEMATICS EDUCATION

MATHS APTITUDE TEST – 2026 (Higher Primary Level)

Std. : VII and VIII

Question Paper

Date : 29.08.2026

Time : 2 Hours

Total Marks : 100

Instructions : 1) Use separate answer sheet to mark answers. 2) First read question carefully, get the answer and darken the circle of respective correct alternative on answer sheet. 3) **No change is allowed, so think twice and then darken the appropriate circle.** 4) Note that half circle darkened or more than one circle darkened, cross or tick on the circle, will not be given marks. 5) If questions are not attempted, marks will not be given. 6) **You can use separate paper for rough work.**

Q.1: Which of the following is a rational number?

- A) $\frac{2}{\sqrt{2}}$ B) $\frac{1}{\sqrt[3]{27}}$ C) π D) None of these

Q.2: Find the L.C.M of the three numbers given as $3^3 \times 2^2 \times 5$, $5^3 \times 2^4 \times 3^2$ and $7 \times 2 \times 5^3$

- A) 378000 B) 302400 C) 151200 D) 504000

Q.3: Find mean proportional between 0.75 and 1.47

- A) 0.49 B) 0.8 C) 1.05 D) 0.25

Q.4: What is 0.01% of 40,000?

- A) $\frac{1}{4}$ B) 0.4 C) 0.04 D) 4

Q.5: If a man suffers 2.5% loss, then what is the ratio of C.P. to S.P.?

- A) 40 : 39 B) 9 : 5 C) 5 : 9 D) 39 : 40

Q.6: A sum of money doubles itself at compound interest in 7.5 years. If P is the principal, then what is the interest earned in 15 years at the same interest rate compounded annually?

- A) 4 P B) 3 P C) 2 P D) P

Q.7: Average of a group of 12 elements is 24 and average of a group of another 24 elements is 12. What is the average of combined group of 36 elements?

- A) 12 B) 24 C) 16 D) 18

Q.8: If the ratio of the average speeds of vehicle A and vehicle B is 3:4 to cover distance of 1200 km. Find the ratio of the time required to cover same distance by vehicle A to vehicle B?

- A) 4:3 B) 3:4 C) 4:5 D) 5:4

Q.9: 'A' completes the work in half the time taken by 'B' and 'B' is twice as fast as 'C'. Who will take the least number of days to complete the same work?

- A) Data insufficient B) A C) B D) C

Q.10: Which of the following is the value of $\sqrt{\sqrt{72.25} - \sqrt{56.25}}$

- A) 0.5 B) 4 C) 1 D) 2

Q.11: By which of the following smallest numbers, does the integer 12250 be multiplied so that the product will be a perfect cube?

- A) 28 B) 7 C) 14 D) 2

Q.12: If $a^b = 64$, $b^c = 243$ and $b = 3$, then find the value of c^a , where a, b, c are natural numbers.

- A) 1024 B) 125 C) 81 D) 625

Q.13: What should be added to $3pq + 5p^2q^2 + p^3$ to get $p^3 + 2p^2q^2 + 4pq$?

- A) $-3p^2q^2 - pq$ B) $3p^2q^2 + pq$
C) $3p^2q^2 - pq$ D) $-3p^2q^2 + pq$

Q.14: The angles of a triangle are, in the ratio 11:12:13. The measure of the largest angle is

- A) 65° B) 60° C) 55° D) 75°

Q.15: $\frac{73^2 - 47^2}{156} =$

- A) 0.5 B) 20 C) 169 D) 144

Q.16: In the adjacent figure

$DF \parallel EG \parallel BC$,

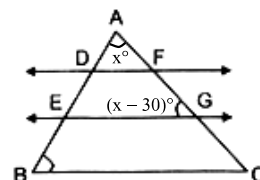
$m\angle BAC = x^\circ$,

$m\angle AEG = m\angle AGE =$

$(x - 30)^\circ$

Find $m\angle ACB$.

- A) 75° B) 60° C) 50° D) 30°



Q.17: In $\triangle ABC$, lengths of sides AB, BC, CA are 4, 6 and 8 respectively. The largest angle is

- A) $\angle A$ B) $\angle B$ C) $\angle C$ D) Can not say

Q.18: Pratap starts from point P and travels 800 meters in the northeast direction to reach point Q. Then he turns 90° and walks another 800 meters to reach point R. Then $PR =$ _____ meter

- A) 1600 B) 0 C) $800\sqrt{2}$ D) 400

Q.19: The length to breadth ratio of a rectangle is 4:3 and its perimeter is 98 cm. Find the length of its diagonal.

- A) 35 cm B) 25 cm C) 30 cm D) 37 cm

Q.20: The length of base and height of a square prism equals 'x' units. Its volume (in cu. units)

- A) $3x$ B) $9x$ C) x^2 D) x^3

Q.21: Two parallel chords of lengths 14 cm. and 48 cm are drawn in a circle of 25 cm. radius. What is the maximum possible distance between the chords in cm?

- A) 26 B) 29 C) 35 D) 31

Q.22: Number of sides of the three regular polygons are 8, 10, and 12. Then find the ratio of measure of exterior angles of these polygons.

- A) 15:12:10 B) 2:3:4 C) 3:4:5 D) None

Q.23: How many pairs of positive integers exist which have GCD 20 and LCM 600?

- A) 2 B) 4 C) 6 D) 3

Q.24: Find the ratio of 12000 mm to 4.8 kilo meter.
A) 1 : 4000 B) 1 : 40 C) 1 : 400 D) 1 : 120

Q.25: If the area of a circle is increased by 125%, then find the percent increase in its radius.
A) 25% B) 125% C) 50% D) 100%

Q.26: An article was purchased for ₹ 2400, and its marked price was ₹ 3000. What percent discount should be given on marked price to get 12.5% profit?
A) 20% B) 10% C) 15% D) 25%

Q.27: If ₹ 5000 was invested for 3 years at compound interest rate of 10 p.c.p.a. and ₹ 7000 was invested for 3 years at simple interest rate of 8 p.c.p.a. What is the difference in the interest received at the end of 3 years?
A) ₹ 25 B) ₹ 50 C) ₹ 75 D) ₹ 125

Q.28: Average age of 30 girls' students of the class is 16 yrs and average age of 30 boys' students in the class is 16 yrs 6 months. Find average age of the entire class? (in years)
A) 16.4 B) 16.5 C) 16.75 D) 16.25

Q.29: Vikas covered 200 km between Mumbai and Pune. While going from Mumbai to Pune, he drove at an average speed of 40 kmph. While returning to Mumbai he drove at an average speed of 50 kmph. Find the average speed of the entire journey. (in kmph)
A) 44.44 B) 44 C) 45 D) 45.45

Q.30: To do the same work, a man takes one third time taken by a child and a woman takes half the time taken by a child. If a child takes 18 days to complete the work alone, then in how many days a man, a woman and a child complete the work if they work together?
A) 6 B) 3 C) 2 D) 4

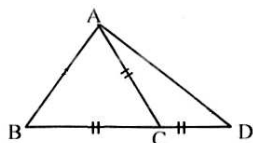
Q.31: Find the value of $(8^{-5} - 4^{-8})$.
A) 2^{-10} B) 2^{-15} C) 2^{-12} D) 2^{-16}

Q.32: Evaluate : $[(81)^{(1/4)} - 1] [(81)^{(1/4)} + 1]$
A) $4(4)^{(1/2)}$ B) $(64)^{(1/2)}$ C) Both A, B D) None

Q.33: If $\sqrt{\frac{x}{1.25}} = 2$, then $x = ?$
A) 2.5 B) 3.375 C) 5 D) 4

Q.34: If $x^{1/2} - x^{-1/2} = 3$, then $[x + (1/x)] =$
A) 11 B) 5 C) 14 D) 8

Q.35: In the given figure
CB = AC = CD.
Find $m\angle BAD$.
A) 60° B) 75°
C) 45° D) 90°



(Diagram not to scale)

Q.36: If the height of an equilateral triangle is $8\sqrt{3}$ cm., then find its perimeter.
A) 24 cm. B) 48 cm C) 36 cm D) 33 cm

Q.37: Total surface area of a sphere is 2464 sq. cm. Find surface area of a hemisphere whose radius is same as that of a sphere. (in sq. cm)
A) 1232 B) 616 C) 1848 D) Any other

Q.38: The area of a circular playground is 616 m^2 . A cloth fence of height 2 meter is laid around it Find the cost of the cloth at the rate of ₹ 10 per square meter. ($\pi = 22/7$)
A) ₹ 1670 B) ₹ 1760 C) ₹ 2040 D) ₹ 2140

Q.39: Sum of measures of interior angles of a regular polygon is 2160° . The number of sides are
A) 14 B) 12 C) 16 D) 15

Q.40: Find GCD of $(3/2), (3/9), (6/12)$
A) $(1/12)$ B) $(2/3)$ C) $(3/2)$ D) $(1/6)$

Q.41: If $5a(5a + 7b) = -(49b^2 + 35ab)$, then $(b/a) =$
A) $-(7/5)$ B) $(7/5)$ C) $-(5/7)$ D) $(5/7)$

Q.42: If 10% of 20% of 25% of $x = 200\%$ of 100, then $x = ?$,
A) 20000 B) 40000 C) 80000 D) 10000

Q.43: Simplify : $x^{(-1/6)} \div [(x^{(1/2)} \times (x)^{(1/3)})]$
A) x B) x^{-2} C) x^2 D) $x^{(-1)}$

Q.44: Find how many liters of water a rectangular reservoir can hold of size $(1.8 \times 1.2 \times 0.5)$ m
A) 1080 B) 1800 C) 1440 D) 1620

Q.45: If two circles of equal radii, with centers O & C intersect at two points S & T, then what type of quadrilateral OSCT is
A) Rhombus B) Square
C) Rectangle D) Kite

Q.46: A plank of wood has one end, A, against a vertical wall. Its other end, B, is on horizontal ground. When end A slips down 8 cm, end B moves 4 cm away from the wall. When end A slips down a further 9 cm, end B moves a further 3 cm away. The length of the plank is
A) 45 cm. B) 65 cm C) 36 cm D) 48 cm

Q.47: What is the 1000th digit to the right of the decimal point in $(37/5500)$
A) 1 B) 6 C) 7 D) 0

Q.48: At the beginning of each hour from 1 o'clock am to 12 noon and from 1 o'clock pm to 12 midnight a clock rings the number of times equal to the number of the hour. In addition, the clock rings a single time at 30 minutes past each hour. How many times does the clock ring from 12:42 pm on Monday until 3:42 am on Wednesday?
A) 276 (B) 229 (C) 336 D) 279

Q.49: A hunter caught 200 rabbits and 18 squirrels on the first day. The next day he caught 3 fewer rabbits and two more squirrels than the day before. Each day he caught 3 fewer rabbits and two more squirrels than the earlier day. This continued through the day when he caught more squirrels than rabbits. Up through that day how many days did he hunt?
A) 38 B) 39 C) 36 D) 37

Q.50: How many whole numbers n have the property that both $(n/2)$ and $2n$ are four digits numbers?
A) 1500 B) 3000 C) 3600 D) 3800

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