



MATHS

BOOKS - HT Olympiad Previous Year Paper

SAMPLE PAPER 4 (CLASS 10)

Section A Mathematics

1. Which of the following is an irrational number?

A. $\sqrt{4}$

B. 5

C. $10/4$

D. π

Answer: D



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2. What will be the product of zeroes of the quadratic equation $3x^2 + 2x - 5$?

A. $\frac{3}{5}$

B. $-\frac{5}{3}$

C. $\frac{2}{5}$

D. $-\frac{5}{2}$

Answer: B



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3. If S_n of an A.P. is $2n^2 - 3$ then find the common difference of the A.P.

A. -1

B. 8

C. 6

D. 4

Answer: D



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4. If two triangles are congruent and similar simultaneously. What will be the ratio of their corresponding sides?

A. 2:1

B. 1:3

C. 1:2

D. 1:1

Answer: D



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5. The zeroes of a polynomial are $-\frac{2}{3}$ and 3.

Find the polynomial.

A. $x^2 - \frac{7}{3}x - 2 = 0$

B. $3x^2 - 7x - 6 = 0$

C. $x^2 - \frac{7}{3}x = 2$

D. All of these

Answer: d



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6. If the length of the shadow of a tower is equal to its height, then what is the Sun's altitude at that time ?

A. 60°

B. 30°

C. 45°

D. None of these

Answer: C



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7. Find the ratio in which the x-axis divides the line segment joining the points P (5,3) and Q (2, -6).

A. 2:1

B. 1:2

C. 1:3

D. 3:1

Answer: B



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8. Find the median of: 12, 10, 5, 31, 89, 42, 11.

A. 12

B. 10

C. 31

D. 89

Answer: A



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9. The area of a sector of angle θ° of a circle with radius R is

A. $(\theta / 90^\circ) \times \pi r^2$

B. $(\theta / 180^\circ) \times \pi r^2$

C. $(\theta / 360^\circ) \times \pi r^2$

D. None of theses

Answer: C



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10. The maximum number of zeroes that a polynomial $f(x) = (x - 5)^3 + 7$ can have is _____.

A. 1

B. 2

C. 0

D. 3

Answer: D



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Section E Logical Reasoning

1. A speaks truth in 75% of the cases while B in 60% of the cases. What is the probability of their contradicting with each other?

A. 0.25

B. 0.55

C. 0.75

D. 0.45

Answer: D



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