# MATHS

## BOOKS - SURA MATHS (TAMIL ENGLISH)

## I TERM SUMMATIVE ASSESSMENT 2018-19

### Section I

**1.** If B-A is B, then is $A \cap B$ is

A. A

B. B

C. U

D. $\Phi$

**Answer: D**

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**2.** If $n(A) = 10$ and $n(B) = 15$ then the minimum and maximum number of elements in $A \cap B$ is

A. (10, 15)

B. (15, 10)

C. (10, 0)

D. (0, 10)

**Answer: D**

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**3.** Which one of the following has a terminating decimal expansion ?

A. $\frac{5}{64}$

B. $\frac{8}{9}$

C. $\frac{14}{15}$

D. $\frac{1}{12}$

**Answer: A**

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**4.** $0.\overline{34} + 0.\overline{34} =$

A. $0.6\overline{87}$

B. $0.\overline{68}$

C. $0.\overline{68}$

D. $0.6\overline{87}$

**Answer: A**

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**5.** The root of the polynomial equation $2x + 3 = 0$ is

A. $\frac{1}{3}$

B. $\frac{-1}{3}$

C. $\frac{-3}{2}$

D. $\frac{-2}{3}$

**Answer: C**

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**6.** Degree of polynomial $\left(y^3-2\right)\left(y^3-1\right)$ is

A. 9

B. 2

C. 3

D. 6

**Answer: C**

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**7.** The exterior angle of a triangle is equal to the sum of two

A. Exterior angles

B. Interior opposite angles

C. Alternate angles

D. Interior angles

**Answer: B**

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**8.** The interior angle made by the side in a parallelogram is $90^\circ$ then the parallelogram is a

A. rhombus

B. rectangle

C. trapezium

D. kite

**Answer: C**

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**9.** Point $( -3, 5)$ lie in the _____ quadrant

A. I

B. II

C. III

D. IV

**Answer: B**

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**10.** If $(x+2, 4) = (5, y-2)$ then the co - ordinates

A. (7, 12)

B. (6, 3)

C. (3, 6)

D. (2, 1)

**Answer: C**

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**11.** Find the number of subsets and number of proper subsets of a set $X = \{a, b, c, x, y, z\}$.

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**12.** Find $A \cup B$ and $A \cap B$ for the following sets $A = \{2, 6, 10, 14\}, B = \{2, 5, 14, 16\}$.

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**13.** Draw a venn diagram for $(A \cap B)'$.

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**14.** Find the decimal expansion of $\sqrt{3}$

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**15.** Express the following decimal expression into rational numbers.

2. $\overline{327}$

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**16.** Find any 4 irrational numbers between $\frac{1}{4}$ and $\frac{1}{3}$

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**17.** If $p(x) = x^2 - 2\sqrt{2}x + 1$, find $p\left(2\sqrt{2}\right)$

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**18.** Find the remainder when $p(x) = x^3 - 2x^2 - 4x - 1$ is divided by $g(x) = x + 1$.

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**19.** Find the product of given polynomials $p(x) = 3x^3 + 2x - x^2 + 8$ and $q(x) = 7x + 2$

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**20.** Find the value of $x$

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**21.** Prove: In a parallelogram, opposite sides are equal.

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**22.** The angles of a quadrilateral are in the ratio $1:2:3:4$. Find all the angles.

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**23.** Plot the following point $(-3, 3), (2, 3), (-6, -1)$ and $(5, -1)$ in the

cartesian plane, where do they lie?

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**24.** Find the distance between the points (1, 2) and (4, 3).

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**25.** Let $P(x) = 4x^2 - 3x + 2x^3 + 5$ and $q(x) = x^2 + 2x + 4$ find $p(x) - q(x)$.

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**26.** Show that the following points $A(3, 1), B(6, 4)$ and $C(8, 6)$ lies on a straight line.

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**27.** Out of 500 car owners investigated, 400 owned car A and 200 owned car B, 50 owned both A and B cars. Is this data correct?

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**28.** If A = {a, b, c, d, e} and B = {a, e, i, o, u} find AB.

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**29.** Find whether x and y are rational or irrational in the following:

(i) $a = 2 + \sqrt{3}, b = 2 - \sqrt{3},$

$x = a + b, y = a - b$

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**30.** Find whether x and y are rational or irrational in the following:

(ii) $a = \sqrt{2} + 7, b = \sqrt{2} - 7$

$x = a + b, y = a - b$

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**31.** Represent $4.\overline{73}$ on the number line upto 4 decimal places.

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**32.** The length of a rectangle is $(3x + 2)$ units and it's breadth is $(3x - 2)$ units. Find its area in terms of x. What will be the area if x = 20 units.

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**33.** If the polynomials $f(x) = ax^3 + 4x^2 + 3x - 4$ and $g(x) = x^3 - 4x + a$ leave the same remainder when divided by $x - 3$. Find the value of a. Also find the remainder.

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**34.** The base of a parallelogram is $(5x + 4)$. Find its height, if the area is $25x^2 - 16$.

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**35.** If the distance between the points $(5, -2), (1, a)$ is 5 units. Find the value of a.

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**36.** Find the perimeter of the triangle, whose vertices are $(3, 2), (7, 2)$ and $(7, 5)$.

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**37.** Let $A = \{b, d, e, g, h\}$ and $B = \{a, e, c, h\}$ verify that $n(A - B) = n(A) - n(A \cap B)$

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**38.** The side of a rhombus is 13 cm and the length of one diagonal is 24 cm. Find the length of other diagonal?

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**39.** Construct the circumcentre of the $\triangle ABC$ with AB = 5 cm, $\angle A = 60^\circ$ and $\angle B = 80^\circ$, also draw two circumcircle and find the circum radius of the $\triangle ABC$.

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**40.** Draw and equilateral triangle of side 6.5 cm and locate its orthocentre.

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