

Every non-empty set of real numbers which has a lower bound has the.

- A. Infimum
- B. Supremum
- C. Both A & B
- D. None of these

ANSWER: A

If  $f$  is monotonic increasing on  $[a, b]$  and is bounded on  $[a, b]$  then  $f$  is \_\_\_\_\_ on  $[a, b]$ .

- A. Integrable
- B. Increasing function
- C. Continuous
- D. Decreasing function

ANSWER: A

$Z = \{1, 2, 3, 4, \dots\}$ , the set is.

- A. Bounded above
- B. Bounded below
- C. Not bounded above
- D. Both A and B

ANSWER: B

A function which is one-one and onto at a time is called.

- A. Bijective function
- B. Increasing function
- C. Decreasing function
- D. None of these

ANSWER: A

The function  $f(x) = x^3 - 3x + 7$  has a critical point at.

- A. 2
- B. 3
- C.  $2/3$
- D.  $3/2$

ANSWER: D

The function  $f(x)=2x^2-8x+4$  is increasing on the interval.

- A.  $(-\infty,0]$
- B.  $[0,\infty)$
- C.  $[2,\infty)$
- D.  $[0,2]$

ANSWER: C

Improper integral is also called.

- A. Generalized
- B. Infinite
- C. Finite
- D. Both A and B

ANSWER: D

Beta function is also known as.

- A. Beta integral
- B. Eulerian integral
- C. Both A and B
- D. None of these

ANSWER: C

Maxima and Minima occur.

- A. Simultaneously

- B. Once
- C. Alternately
- D. Rarely

ANSWER: C

A function defined from  $\mathbb{R} \rightarrow \mathbb{R}$  is called.

- A. Definite function
- B. Real valued function
- C. Both A and B
- D. None of these

ANSWER: B

De L' Hospital was the famous mathematician of.

- A. French
- B. German
- c. American
- D. None

ANSWER: A

If  $f'$  is Integrable on  $[a, b]$  with  $b > a$ , then.

- A.  $\int_a^b [f'(a) - f'(b)] dx$
- B.  $\int_a^b [f'(b) - f'(a)] dx$
- C.  $\int_a^b [f'(a) - f'(b)] dx$
- D.  $\int_a^b [f'(b) - f'(a)] dx$

ANSWER: B

Euler was mathematician of.

- A. France
- B. German

C. Scotland

D. Swiss

ANSWER: D

The slope intercept form is also called.

A. Normal form

B. Parametric form

C. Straight line

D. Gradient form

ANSWER: D

The segment of the y-axis intercepted within the ellipse is the.

A. Major axis

B. Minor axis

C. Discriminant

D. None

ANSWER: B

Two diameters are said to be conjugate when each bisects chords \_\_\_\_\_ to each other.

A. Differ

B. Parallel

C. Perpendicular

D. None

ANSWER: B

In conic the semi-latus rectum is the \_\_\_\_\_ between the segments of a focal chord.

A. Geometric mean

B. Arithmetic mean

C. Harmonic mean

D. Both A and C

ANSWER: C

If  $f''(x) > 0$ , at some point the curve is.

A. Concave upward

B. Concave downward

C. Convex downward

D. Both A and B

ANSWER: D

$B^2 - AC > 0$ , the locus is.

A. Hyperbola

B. Two increasing line

C. Ellipse

D. Both A and B

ANSWER: D

If the point  $x$  is distinct from  $x$  then it is called.

A. Radius of the nbhd

B. Deleted nbhd

C. Both A and B

D. None

ANSWER: B

If  $\{S_n\}$  converges to  $l$ ,  $l$  is called.

A. Limit of sequence

B. Convergent sequence

C. Divergent sequence

D. None

ANSWER: A

A convergent sequence is called a null sequence, if it converges to.

A. 1

B. 0

C. -1

D. Infinity

ANSWER: B

If a sequence is convergent then it is.

A. Bounded

B. Unbounded

C. Convergent

D. None

ANSWER: A

The point where coordinate axis intersects a surface is called an.

A. Intersection

B. Intercept

C. Curve

D. None

ANSWER: B

If  $B^2 - AC < 0$  then locus is.

A. Parabola

B. Hyperbola

C. Ellipse

D. Circle

ANSWER: C

A car park is 60ft by 140ft. If each of the measurements is uncertain by 3 in, the maximum area is.

- A.  $241/4$  sq.ft
- B.  $441/8$  sq.ft
- C.  $237/4$  sq.ft
- D.  $513/8$  sq.ft

ANSWER: B

If a curve is rotated about a straight line, a surface is generated is called.

- A. Axis of rotation
- B. Surface of revolution
- C. Both A and B
- D. None

ANSWER: B

A bounded monotonic increasing sequence converges to its.

- A. Least upper bound
- B. Greatest lower bound
- C. Both A and B
- D. None

ANSWER: A

Volume of tetrahedron has its vertices at the points A(1,-1,2), B(2,0,1), C(0,-2,1), D(-2,2,1) are.

- A. 2
- B.  $3\sqrt{2}$
- C. 4
- D. 6

ANSWER: A

A function is said to be strictly increasing on a set SCR, if.

A.  $f(x_1) < f(x_2)$

B.  $f(x_1) > f(x_2)$

C.  $f(x_1)$  less than and equal to  $f(x_2)$

D.  $f(x_1)$  greater than and equal to  $f(x_2)$

ANSWER: A