



ST. LAWRENCE HIGH SCHOOL
A JESUIT CHRISTIAN MINORITY INSTITUTION



Worksheet-7

SUBJECT – MATHEMATICS

Pre-test

Chapter: Limit

Class: XII

Topic: Limit

Date: 10.06.2020

Choose the correct option

(1 X 15= 15)

1. The value of $\lim_{x \rightarrow 0} \frac{e^{3x}-1}{2x} = ?$

- a) $\frac{3}{2}$, b) $\frac{1}{6}$, c) $\frac{2}{3}$, d) $\frac{3}{4}$

2. The value of $\lim_{x \rightarrow 0} \frac{\log(1+4x)}{3x} = ?$

- a) 4 , b) 3 , c) $\frac{4}{3}$, d) $\frac{1}{12}$

3. The value of $\lim_{x \rightarrow 0} \frac{a^{2x}-1}{2x} = ?$

- a) $\frac{1}{4} \log_a e$, b) 1 , c) $\frac{1}{2}$, d) $\log_a e$

4. The value of $\lim_{x \rightarrow 0} (1 + \frac{1}{x})^x = ?$

- a) 1 , b) e , c) e^{-1} , d) Doesn't exit.

5. The value of $\lim_{x \rightarrow 0} \frac{e^{x^2}-1}{x} = ?$

- a) 1 , b) 0 , c) e^{-1} , d) Doesn't exit.

6. The value of $\lim_{x \rightarrow 1} \frac{\log x}{x-1} = ?$

a) 1 , b) 0 , c) e , d) -1

7. The value of $\lim_{x \rightarrow 0} \frac{\log(1+\sin x)}{x} = ?$

a) 1 , b) $\log_a e$, c) 0 , d) e

8. The value of $\lim_{x \rightarrow 0} \frac{\sin \log(1+x)}{x} = ?$

a) 0 , b) $\log_a e$, c) 1 , d) e

9. The value of $\lim_{x \rightarrow 0} \frac{(e^x - 1) \log(1+x)}{\sin x} = ?$

a) 1 , b) 0 , c) e^{-1} , d) Doesn't exit.

10. The value of $\lim_{x \rightarrow 0} (1 + 4x)^{\frac{x+2}{x}} = ?$

a) 1 , b) 0 , c) e^8 , d) Doesn't exit.

11. The value of $\lim_{x \rightarrow 2} \frac{\log(2x-3)}{2(x-2)} = ?$

a) $\frac{1}{4} \log_a e$, b) 1 , c) $\frac{1}{2}$, d) $\log_a e$

12. The value of $\lim_{x \rightarrow 0} \frac{x \tan 2x - 2x \tan x}{(1 - \cos 2x)^2} = ?$

a) $\frac{1}{4} \log_a e$, b) 1 , c) $\frac{1}{2}$, d) $\log_a e$

13. The value of $\lim_{x \rightarrow \infty} x^{\frac{3}{2}} (\sqrt{x^3 + 1} - \sqrt{x^3 - 1}) = ?$

a) 1 , b) 0 , c) e , d) -1

14. The value of $\lim_{x \rightarrow \frac{\pi}{6}} \frac{\sin(x - \frac{\pi}{6})}{\sqrt{3}/2 - \cos x} = ?$

a) 4 , b) 3 , c) 2 , d) $\frac{1}{12}$

15. The value of $\lim_{x \rightarrow \infty} \left(\left(\frac{x^2 + 5x + 3}{x^2 + x + 3} \right)^x \right) = ?$

a) 1 , b) 0 , c) e^4 , d) Doesn't exit.

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