TEST YOUR GRIP

CONTINUITY

1.The function f(x)= $[x]$ is discont. At all points of the set of ……

2.The number of points of which the function f(x)= $\frac{1}{\log|x|}$ is discont.is…

3.An exp. Of a funtion which is cont. everywhere and diff. at all pts. Execpt 0 is …….

4. Domain of cont. of the function f(x)= $|x-1|$

5. If f is cont. on its domain D, then $|f|$ is also cont. on D. (T/F)

6. The func. f(x)= $\log x^2$ has only one pt. of discont. (T/F).

7. If fg cont. at x=a then both f and g are separatly cont. at x=a.(T/F)

8.An increasing fuuction is always a cont. function. (T/F)

9.The function f(x)= $|x-1|$ is cont. function.(T/F)

10.Examine for continuity, f(x)= $\begin{cases} \frac{2x^2-3x-2}{x-2}, x\neq 2 \\ 3, x=2 \end{cases}$ at x=2

11. Examine for continuity, f(x)= $\begin{cases} \frac{|x-3|}{x-3}, x\neq 3 \\ 3, x=3 \end{cases}$ at x=3

12.Examine for continuity f(x)= $|x|+|x-1|$ at x=1

13.Find the value of k so that f defind below is cont.at x=0

$$f(x)=\begin{cases}\dfrac{1-\cos 4x}{5x^2}, & x\neq 0\\ k, & x=0\end{cases}$$

14.discuss the cont. f(x)=

$$\begin{cases}\dfrac{\sqrt{1+4x}-\sqrt{1-4x}}{\tan x}, & x\neq 0\\ 4, & x=0\end{cases}$$ at x=0

15. If the function f(x)= $\begin{cases}3ax+b & if \quad x\rangle 1\\ 11 & if \quad x=1\\ 5ax-2b & if \quad x\langle 1\end{cases}$ is cont.at x=1, find a and b

16. For what value of k , f(x)= $\begin{cases}\dfrac{\sin 5x}{3x} & if \quad x\neq 0\\ k & if \quad x=0\end{cases}$ cont.at x=0

17.Discuss cont. f(x)= $\begin{cases}(x-2)\sin\dfrac{1}{x-2} & if \quad x\neq 2\\ 0 & if \quad x=2\end{cases}$ at x=2

18.Discuss the cont. f(x)= $\begin{cases}\dfrac{e^{1/x}-1}{e^{1/x}+1} & if \quad x\neq 0\\ 0 & if \quad x=0\end{cases}$ at x=0

19.Find the value of k for which the function

f(x)= $\begin{cases}\dfrac{k\cos x}{\pi-2x} & , \quad x\langle\dfrac{\pi}{2}\\ 3 & , \quad x=\dfrac{\pi}{2}\\ \dfrac{3\tan 2x}{2x-\pi} & , \quad x\rangle\dfrac{\pi}{2}\end{cases}$ at x=$\dfrac{\pi}{2}$

20.Discuss the cont. f(x)= $\begin{cases} \dfrac{x-3}{\sqrt{x^2-9}} & , \quad x \neq 3 \\ 0 & , \quad x = 3 \end{cases}$ at x=3

21.Show that f(x)= x-$[x]$ is discont. At all integral pts.

22.show that f(x)= $|\cos x|$ is cont. function.

23.Show that f(x)= $\sin x^2$ is cont.

24. Find a and b s.t.

f(x)= $\begin{cases} 3ax+2b+1 & , \quad x \leq 1 \\ 5bx-a+7 & , \quad 1 < x < 4 \\ 2ax-bx^2+3 & , \quad x \geq 4 \end{cases}$ cont. at x=1 and x=4