MAC 2311 Hybrid Calculus I (B)

**Sections 2.4-2.6**

1. Find the Following limits. If the limit does not exist (DNE) explain why.

 

2.

3.

4. If and, find.

5.

6.

7.

8.

9.

10.

11.

12. DNE

13. Find the vertical asymptotes of ANS: 3/2+3k

14. Evaluate

15. Evaluate

16. Use limits to find the horizontal asymptote(s) of. ANS: No HA

17. Use limits to find the vertical asymptote(s) of. ANS:

18. Write the 3 conditions for continuity at a point.

19. Find the value of ‘a’ that will make , continuous at *x* = 1. ANS:

20. Find the largest interval on which the function is continuous. ANS [-1,1]

21. The tangent line to *y* = *f*(x) at (4,3) passes through the point (0,2), Find *f*(4), *f*(0) and *f* ' (4).

ANS: 3, cannot tell, 1/4

22. Use the limit definition of the derivative to find *f* '(a) if, *f*(*x*)= 3*x*2 −2*x* +3.

ANS: *f* '(a) = 6a-2 using