

## MATH 141 HW 09 (6438248)

Due: Fri Oct 10 2014 11:59 PM EDT

Question

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## 1. Question Details

SCalcET6 4.4.005.MI. [1387819]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 3} \frac{x^2 - 9}{x^2 - 3x}$$



## 2. Question Details

SCalcET6 4.4.006. [803637]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 1} \frac{x^2 + 3x - 4}{x - 1}$$



## 3. Question Details

SCalcET6 4.4.007. [803654]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 1} \frac{x^8 - 1}{x^3 - 1}$$



## 4. Question Details

SCalcET6 4.4.010.MI. [1387263]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{\sin(4x)}{\tan(5x)}$$



## 5. Question Details

SCalcET6 4.4.011. [803644]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{t \rightarrow 0} \frac{e^t - 1}{t^7}$$




## 6. Question Details

SCalcET6 4.4.012.MI. [1386438]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{t \rightarrow 0} \frac{e^{2t} - 1}{t}$$


  2

## 7. Question Details

SCalcET6 4.4.015.MI. [1533250]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} \frac{\ln x}{\sqrt{x}}$$

  0

## 8. Question Details

SCalcET6 4.4.016. [703938]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} \frac{x + x^2}{3 - 5x^2}$$


  -1/5

## 9. Question Details

SCalcET6 4.4.018. [803629]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} \frac{\ln(\ln(2x))}{2x}$$

  0

## 10. Question Details

SCalcET6 4.4.019. [803623]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} \frac{e^x}{x^3}$$


  INFINITY

## 11. Question Details

SCalcET6 4.4.020. [1816138]

Evaluate the limit.

$$\lim_{x \rightarrow 1} \frac{\ln x}{\sin 7\pi x}$$

   $-\frac{1}{7\pi}$

## 12. Question Details

SCalcET6 4.4.021. [803631]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{e^x - 1 - x}{x^2}$$

1/2

## 13. Question Details

SCalcET6 4.4.022. [803631]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{25e^{\frac{x}{5}} - 25 - 5x - \frac{1}{2}x^2}{x^3}$$

1/30

## 14. Question Details

SCalcET6 4.4.024. [1411592]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{x - \sin(x)}{x - \tan(x)}$$

-1/2

## 15. Question Details

SCalcET6 4.4.025. [1291320]

Evaluate the limit.

$$\lim_{t \rightarrow 0} \frac{7^t - 6^t}{t}$$

  $\ln(7) - \ln(6)$ 

## 16. Question Details

SCalcET6 4.4.026. [803642]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{7 \sin(x) - 7x}{x^3}$$

-7/6

## 17. Question Details

SCalcET6 4.4.028.MI. [1533262]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} \frac{(\ln x)^2}{3x}$$

0

## 18. Question Details

SCalcET6 4.4.029. [803651]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{5 - 5 \cos(x)}{x^2}$$

 5/2

## 19. Question Details

SCalcET6 4.4.031. [703891]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{4x + \sin(x)}{8x + \cos(x)}$$

 0

## 20. Question Details

SCalcET6 4.4.033. [1291282]

Evaluate the limit.

$$\lim_{x \rightarrow 1} \frac{1 - x + \ln(x)}{1 + \cos(5\pi x)}$$

  $-\frac{1}{25\pi^2}$ 

## 21. Question Details

SCalcET6 4.4.036. [803627]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \frac{e^{2x} - e^{-2x} - 4x}{x - \sin(x)}$$

 16

## 22. Question Details

SCalcET6 4.4.039. [1290931]

Evaluate the limit. (If you need to use  $\infty$  or  $-\infty$ , enter INFINITY or -INFINITY, respectively.)

$$\lim_{x \rightarrow \infty} x \sin\left(\frac{2\pi}{x}\right)$$

  $2\pi$ 

## 23. Question Details

SCalcET6 4.4.040. [803628]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow -\infty} x^2 e^{2x}$$


 0

24. Question Details

SCalcET6 4.4.041.MI. [1533225]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} \cot 3x \sin 6x$$


  2

25. Question Details

SCalcET6 4.4.042. [803630]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0^+} \sin(x) \ln(2x)$$


  0

26. Question Details

SCalcET6 4.4.043. [803640]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} x^3 e^{-x^2}$$


  0

27. Question Details

SCalcET6 4.4.044. [803633]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 5\pi/4} (1 - \tan(x)) \sec(x)$$


  0

28. Question Details

SCalcET6 4.4.046. [703926]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} x \tan\left(\frac{8}{x}\right)$$


  8

29. Question Details

SCalcET6 4.4.047. [803625]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 1} \left( \frac{5x}{x-1} - \frac{5}{\ln(x)} \right)$$

  5/2

30. Question Details

SCalcET6 4.4.048. [803653]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0} (\csc(x) - \cot(x))$$

 0

31. Question Details

SCalcET6 4.4.051.MI. [1533177]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} (5x - \ln x)$$

 INFINITY

32. Question Details

SCalcET6 4.4.052. [703684]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} (xe^{1/x} - x)$$

 1

33. Question Details

SCalcET6 4.4.053.MI. [1533243]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0^+} x^{x^x}$$

 1

34. Question Details

SCalcET6 4.4.054. [803650]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow 0^+} (\tan(7x))^x$$

 1

35. Question Details

SCalcET6 4.4.055.MI. [1387491]

Evaluate the limit.

$$\lim_{x \rightarrow 0} (1 - 6x)^{1/x}$$

  $e^{-6}$

## 36. Question Details

SCalcET6 4.4.057. [1290023]

Evaluate the limit.

$$\lim_{x \rightarrow \infty} \left( 1 + \frac{3}{x} + \frac{5}{x^2} \right)^x$$

## 37. Question Details

SCalcET6 4.4.059. [703654]

Evaluate the limit. (If you need to use  $-\infty$  or  $\infty$ , enter -INFINITY or INFINITY.)

$$\lim_{x \rightarrow \infty} x^{9/x}$$

## 38. Question Details

SCalcET6 4.4.064. [1816596]

Find the limit. Use l'Hospital's Rule if appropriate. If there is a more elementary method, consider using it.

$$\lim_{x \rightarrow \infty} \left( \frac{5x - 2}{5x + 4} \right)^{5x + 1}$$

## 39. Question Details

SCalcET6 4.4.066. [1291446]

Use l'Hospital's Rule to find the value of the limit.

$$\lim_{x \rightarrow 0} \frac{7^x - 6^x}{3^x - 2^x}$$

## Assignment Details

Name (AID): MATH 141 HW 09 (6438248)

Submissions Allowed: 100

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