

1. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

$$\lim_{x \rightarrow 0} \frac{e^x - 1}{\sin(14x)}$$

Answer(s) submitted:

- 1/14

(correct)

Correct Answers:

- 0.0714285714285714

2. (1 pt)

Evaluate the limit using L'Hospital's rule

$$\lim_{x \rightarrow 0} \frac{\sin(7x)}{\tan(14x)}$$

Answer(s) submitted:

- 1/2

(correct)

Correct Answers:

- 0.5

3. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

$$\lim_{x \rightarrow +\infty} \frac{13 \ln x}{x}$$

Answer: \_\_\_\_\_

Answer(s) submitted:

- 0

(correct)

Correct Answers:

- 0

4. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

$$\lim_{x \rightarrow 0} \frac{15^x - 3^x}{x}$$

Answer(s) submitted:

- $\ln(5)$

(correct)

Correct Answers:

- 1.6094379124341

5. (1 pt)

Evaluate the limit using L'Hopital's rule

$$\lim_{x \rightarrow \infty} \frac{11x^3}{e^{9x}}$$

Answer(s) submitted:

- 0

(correct)

Correct Answers:

- 0

6. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

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

Answer: \_\_\_\_\_

Answer(s) submitted:

- -6

(correct)

Correct Answers:

- -6

7. (1 pt) Evaluate the following limit:

$$\lim_{x \rightarrow 0} \frac{4x + \tan(5x)}{2x - \tan(3x)}.$$

Enter *-Inf* if your answer is  $-\infty$ , enter *Inf* if your answer is  $\infty$ , and enter *DNE* if the limit does not exist.

Limit = \_\_\_\_\_

Answer(s) submitted:

- -9

(correct)

Correct Answers:

- -9

8. (1 pt) Compute the following limits using l'Hôpital's rule if appropriate. Use INF to denote  $\infty$  and MINF to denote  $-\infty$ .

$$\lim_{x \rightarrow 1} \frac{2^x - 2}{x^2 - 1} = \underline{\hspace{2cm}}$$

$$\lim_{x \rightarrow \infty} \frac{\tan^{-1}(x)}{(1/x) - 2} = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- $\ln(2)$
- $-(\pi/4)$

(correct)

Correct Answers:

- 0.693147180559945
- -0.785398163397448

9. (1 pt)

Evaluate the limit using L'Hopital's rule

$$\lim_{x \rightarrow \frac{\pi}{2}} 3 \cos(3x) \sec(-9x)$$

Answer:       

Answer(s) submitted:

- -1

(correct)

Correct Answers:

- -1

10. (1 pt) Compute the following limit using l'Hôpital's rule if appropriate. Use INF to denote  $\infty$  and MINF to denote  $-\infty$ .

$$\lim_{x \rightarrow 0^+} 7 \sin(x) \ln(x) = \underline{\hspace{2cm}}$$

Answer(s) submitted:

- 0

(correct)

Correct Answers:

- 0

11. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

$$\lim_{x \rightarrow \infty} 8xe^{1/x} - 8x$$

Answer(s) submitted:

- 8

(correct)

Correct Answers:

- 8

12. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

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

Answer:       

Answer(s) submitted:

- 0

(correct)

Correct Answers:

- 0

13. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

$$\lim_{x \rightarrow 1} \frac{x^7 - 1}{x^9 - 1}$$

Answer:       

Answer(s) submitted:

- 7/9

(correct)

Correct Answers:

- 7/9

14. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary

$$\lim_{x \rightarrow \infty} \left(1 + \frac{7}{x}\right)^{\frac{x}{4}}$$

Answer(s) submitted:

- $e^{(7/4)}$

(correct)

Correct Answers:

- $e^{(7/4)}$

15. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary.

$$\lim_{x \rightarrow 0^+} x^{4 \sin(x)}$$

Answer:       

Answer(s) submitted:

- 1

(correct)

Correct Answers:

- 1

16. (1 pt)

Evaluate the limit using L'Hospital's rule if necessary.

$$\lim_{x \rightarrow +\infty} x^{6/x}$$

Answer:       

Answer(s) submitted:

- 1

(correct)

Correct Answers:

- 1

