|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. | fails to exist because there is what type of discontinuity at x=2? | | | | | | |  |
| a. | removable | b. | jump | c. | infinite | d. | oscillation | e. NOTA |
| 2. | For how many values is **not** continuous? | | | | | | |  | |
| a. | 0 | b. | 1 | c. | 2 | d. | 3 | e. NOTA | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. | Find when . | | | | | | |  |
| a. | 0 | b. | 1 | c. | -1 | d. | DNE | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4. | Find when | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |
| 5. | Evaluate: | | | | | | |  |
| a. | -1 | b. | 0 | c. | 1 | d. | 2 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 6. | Find when . | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 7. | Find the slope of the **normal** line of the curve at the point . | | | | | | |  |
| a. |  | b. |  | c. |  | d. | 2 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8. | Find  when ,. | | | | | | |  |
| a. | 27 | b. | 45 | c. | -12 | d. | -48 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 9. | Which of the following is/are **true** of thegraph of *f(x)* shown below?    *x*  *y*  *f*(*x*)  I.  II. does not exist  III.  IV. does not exist | | | | | | |  |
| a. | I, II | b. | II, III | c. | I, II, IV | d. | I, II, III, and IV | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10. | Evaluate: | | | | | | |  |
| a. | Does not exist | b. | 0 | c. | 1 | d. | 2 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 11. | To which function does the Mean Value Theorem not apply on ? | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 12. | Find when | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 13. | | The position of a particle at time *t* is represented by . Find the speed of the particle at *t* = 2. | | | | | | | | | | | | | |  | |
| a. | | 96 | | b. | | 100 | | c. | | -100 | | d. | | -84 | | e. NOTA | |
| 14. | | Differentiate: | | | | | | | | | | | | | |  | |
| a. | |  | | b. | |  | | c. | |  | | d. | |  | | e. NOTA | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. |  | | | | | | |  |
| a. | e | b. | e2 | c. |  | d. |  | e. NOTA |
|  |  |  |  |  |  |  |  |  |
| 16. | Given the graph of  below. The graph has x-intercepts at 1, 3, and 5. How many of the statements below are **true**?  *y*  *A*  *B*  *C*  *D*  *E*  *x*  I. *f* has 2 minimums II.  twice.  III. *f*  is concave up over only one interval. IV. *f is increasing at* B. | | | | | | |  |
| a. | 1 | b. | 2 | c. | 3 | d. | 4 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 17. | Given find. | | | | | | |  |
| a. |  | b. |  | c. | 24 | d. | 246 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 18. |  | | | | | | |  |
| a. | 0 | b. | 1 | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 19. | Evaluate: | | | | | | |  |
| a. | 0 | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20. | Which is the y-intercept of the perpendicular to the tangent toat *x* = 1? | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |
| 21. | Evaluate: | | | | | | |  |
| a. | 0 | b. | 12 | c. | 48 | d. | 96 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22. | Find *A+M,* whenhas a point of inflection at (-1, 2). | | | | | | |  |
| a. |  | b. | 1 | c. |  | d. | 2 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23. | Find  when and | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24. |  | | | | | | |  |
| a. | 1 | b. | *x* | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25. | Find  when **.** | | | | | | |  |
| a. |  | b. | *-x* | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26. | Estimate when and . | | | | | | |  |
| a. | .02 | b. | 1.01 | c. | 1.99 | d. | 3.98 | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27. | Find | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28. |  | | | | | | |  |
| a. | 0 | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29. | Which differential equation represents the slope field below?  http://www.ltcconline.net/greenl/courses/204/firstOrder/slopeField.gif | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30. | Find  of | | | | | | |  |
| a. |  | b. |  | c. |  | d. |  | e. NOTA |