|  |  |  |
| --- | --- | --- |
| 1. Suppose that  represents the height, in feet, of a person  years old. In real world terms, what does  represent? What is its unit? What does  represents and what is its unit?

|  |  |
| --- | --- |
| *ANSWER:* |  represents the height of a 10-year old person. Its unit is feet.  represents the rate of change of the height when a person is t years old. Its unit is feet per year. |

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|  |  |  |
| --- | --- | --- |
| 2. The function  is both continuous and differentiable at  Write these facts as limit statements.

|  |  |
| --- | --- |
| *ANSWER:* | Since *f* is continuous at *x* = 0, Since *f* is differentiable at *x* = 0,  exists.Note that there are alternate ways of writing the answer |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 3. Suppose  and  Is  continuous and/or differentiable at

|  |  |  |
| --- | --- | --- |
|   | a.  | *f* is not continuous but differentiable at *x* = 1 |
|   | b.  | *f* is neither continuous nor differentiable at *x* = 1 |
|   | c.  | *f* is continuous at but not differentiable at *x* = 1 |
|   | d.  | *f* is both continuous and differentiable at *x* = 1 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 4. Suppose  and  Is  continuous and/or differentiable at

|  |  |  |
| --- | --- | --- |
|   | a.  | *f* is not continuous but differentiable at *x* = 1 |
|   | b.  | *f* is neither continuous nor differentiable at *x* = 1 |
|   | c.  | *f* is continuous but not differentiable at *x* = 1 |
|   | d.  | *f* is both continuous and differentiable at *x* = 1 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |
| --- | --- | --- |
| 5. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* | - 2 |

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|  |  |  |
| --- | --- | --- |
| 6. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* | -  |

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| --- | --- | --- |
| 7. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* | - 3 |

 |

|  |  |  |
| --- | --- | --- |
| 8. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* | - 2 |

 |

|  |  |  |
| --- | --- | --- |
| 9. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* | -  |

 |

|  |  |  |
| --- | --- | --- |
| 10. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* | - 3 |

 |

|  |  |  |
| --- | --- | --- |
| 11. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* |  |

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|  |  |  |
| --- | --- | --- |
| 12. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* |  |

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|  |  |  |
| --- | --- | --- |
| 13. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* |  |

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|  |  |  |
| --- | --- | --- |
| 14. Use the definition of derivative:  to find

|  |  |
| --- | --- |
| *ANSWER:* |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 15. Given , is  continuous and/or differentiable at  Explain.

|  |  |  |
| --- | --- | --- |
|   | a.  | *f* is not continuous but differentiable at *x* = 1 |
|   | b.  | *f* is neither continuous nor differentiable at *x* = 1 |
|   | c.  | *f* is continuous but not differentiable at *x* = 1 |
|   | d.  | *f* is both continuous and differentiable at *x* = 1 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 16. Given , is  continuous and/or differentiable at  Explain.

|  |  |  |
| --- | --- | --- |
|   | a.  | *f* is continuous but not differentiable at *x* = 2 |
|   | b.  | *f* is differentiable but not continuous at *x* = 2 |
|   | c.  | *f* is neither continuous nor differentiable at *x* = 2 |
|   | d.  | *f* is both continuous and differentiable at *x* = 2 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |
| --- | --- | --- |
| 17. Use the Intermediate Value Theorem to show that  has at least one zero on [0, 2].

|  |  |
| --- | --- |
| *ANSWER:* | *f* is continuous on [0, 2], and  |

 |

|  |  |  |
| --- | --- | --- |
| 18. Use the Intermediate Value Theorem to show that  has at least one zero on [- 2, 1].

|  |  |
| --- | --- |
| *ANSWER:* | *f* is continuous on [ - 2, 1], and  |

 |

|  |  |  |
| --- | --- | --- |
| 19. Suppose  is a piecewise-defined function, equal to  where  are continuous and differentiable everywhere. If  is the function  differentiable at  Explain why or why not.

|  |  |
| --- | --- |
| *ANSWER:* | Yes. |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 20. Suppose  are functions with values  Find

|  |  |  |
| --- | --- | --- |
|   | a.  | 7 |
|   | b.  | 9 |
|   | c.  | – 9 |
|   | d.  | – 7 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 21. Suppose  are functions with values  Find

|  |  |  |
| --- | --- | --- |
|   | a.  | 15 |
|   | b.  | – 12 |
|   | c.  | 12 |
|   | d.  | – 15 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 22. Suppose  are functions with values  Find

|  |  |  |
| --- | --- | --- |
|   | a.  | 3 |
|   | b.  |  |
|   | c.  | – 1 |
|   | d.  | 1 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 23. Find constants  so that , is continuous and differentiable everywhere?

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | g(x) | h(x) | g'(x) | h'(x) |
| -3 | 0 | 3 | 1 | 0 |
| -2 | 1 | 2 | 2 | -3 |
| -1 | 3 | 0 | -1 | -2 |
| 0 | 2 | 3 | -2 | 3 |
| 1 | 0 | -1 | -2 | -2 |
| 2 | -2 | -2 | -1 | 0 |
| 3 | -3 | 0 | 0 | 1 |

  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 24. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | 4 |
|   | b.  | – 1 |
|   | c.  | 1 |
|   | d.  | – 4 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 25. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | 4 |
|   | b.  | – 1 |
|   | c.  | 1 |
|   | d.  | – 4 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 26. Use the table above to find  if

|  |  |  |
| --- | --- | --- |
|   | a.  | 19/9 |
|   | b.  | – 19/9 |
|   | c.  | 17/9 |
|   | d.  | – 17/9 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 27. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | – 3 |
|   | b.  | 3 |
|   | c.  | – 1 |
|   | d.  | 1 |

|  |  |
| --- | --- |
| *ANSWER:* | b |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 28. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | 4 |
|   | b.  | – 1 |
|   | c.  | 1 |
|   | d.  | – 4 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 29. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | 3 |
|   | b.  | – 3 |
|   | c.  | 6 |
|   | d.  | – 6 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 30. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 31. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | 1 |
|   | b.  | – 1 |
|   | c.  | 7 |
|   | d.  | – 7 |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 32. Use the table above to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  | 2 |
|   | b.  | – 2 |
|   | c.  | 8 |
|   | d.  | – 8 |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 33. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 34. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 35. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 36. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

 |

|  |  |  |
| --- | --- | --- |
| 37. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 38. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 39. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |
| --- | --- | --- |
| 40. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |
| --- | --- | --- |
| 41. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |
| --- | --- | --- |
| 42. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 43. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

 |

|  |  |  |
| --- | --- | --- |
| 44. Differentiate  in three ways: (a) with the chain rule, (b) with the quotient rule but not chain rule, (c) without the chain or quotient rules.

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |
| --- | --- | --- |
| 45. Differentiate  in three ways: (a) with the chain rule, (b) with the quotient rule but not chain rule, (c) without the chain or quotient rules.

|  |  |
| --- | --- |
| *ANSWER:* |  |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 46. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 47. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 48. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

 |

|  |  |  |
| --- | --- | --- |
| 49. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |
| --- | --- | --- |
| 50. Find the derivative of

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |
| --- | --- | --- |
| 51. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 52. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 53. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 54. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

 |

|  |  |  |
| --- | --- | --- |
| 55. If , find

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 56. Use implicit differentiation to find  if

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 57. Use implicit differentiation to find  if

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 58. Use implicit differentiation to find  if .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

 |

|  |  |  |
| --- | --- | --- |
| 59. Find the equation of the tangent lines to the circle  at the points with x-coordinate

|  |  |
| --- | --- |
| *ANSWER:* |  |

 |

|  |  |  |
| --- | --- | --- |
| 60. Find the equation of the tangent lines to the graph of  at the points with x-coordinate

|  |  |
| --- | --- |
| *ANSWER:* |  and  |

 |

|  |  |  |
| --- | --- | --- |
| 61. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

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|  |  |  |
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| 62. Find the derivative of .

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| *ANSWER:* |  |

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| 63. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| 64. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 65. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 66. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | b |

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| 67. Find the derivative of .

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| --- | --- |
| *ANSWER:* |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 68. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 69. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 70. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 71. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 72. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 73. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 74. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 75. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 76. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 77. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- |
| 78. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 79. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| 80. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 81. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 82. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 83. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 84. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 85. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 86. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 87. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

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| --- | --- |
| *ANSWER:* | d |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 88. Find the derivative of

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- |
| 89. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 90. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | c |

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|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 91. Find the derivative of .

|  |  |  |
| --- | --- | --- |
|   | a.  |  |
|   | b.  |  |
|   | c.  |  |
|   | d.  |  |

|  |  |
| --- | --- |
| *ANSWER:* | b |

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| --- | --- | --- |
| 92. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

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| --- | --- | --- |
| 93. Find the derivative of .

|  |  |
| --- | --- |
| *ANSWER:* |  |

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| --- | --- | --- |
| 94. Use implicit differentiation to find  if .

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| *ANSWER:* |  |

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