Q17+Q18+Q19

FAISAL FAIRAG

Started: January 12, 2011 12:24 AM

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1. q11F071 (Points: 5)

Using differentials, (8.06)^(2/3) can be approximated to:

- a. 4.02
- b. 4.08
- c. 4.03
- d. 3.98
- e. 4.01

Save Answer

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2. q12F071 (Points: 5)

The function f(x) = x - sqrt(x); 0 =< x =< 4 has

- a. absolute maximum 2 and no absolute minimum
- b. absolute maximum 2 and absolute minimum 0
- c. absolute maximum 2 and absolute minimum -1/4
- d. absolute maximum 4 and absolute minimum 1/4
- e. absolute maximum 0 and absolute minimum -1/4

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3. q18F071 (Points: 5)

For the graph of the curve y = 3x^5 - 5x^3 + 3, which one of the following is FALSE?

○ a.   The graph has the local maximum at (-1, 5).

○ b.   The graph has the local minimum at (0, 3).

○ c.   The graph is increasing over the interval (1,inf).

○ d.   The graph has the local minimum at (1, 1).

○ e.   The graph is decreasing over the interval (-1, 1).

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4. q19FO71 (Points: 5)

   If c is a number that satisfies the conclusion of the mean value theorem on the interval [0, 1] for the function $f(x) = x^3 + 2x + 1$, then $12c^2 + 1$ is equal to

○ a.   5

○ b.   Undefined (The mean value theorem does not apply)

○ c.   7

○ d.   3

○ e.   2

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5. q22FO71 (Points: 4)

   If $y = \tan^{-1}(\operatorname{csch}(\sqrt{x}))$, then $2y' \sqrt{x} =$

○ a.   csch(sqrt(x))

○ b.   sech(sqrt(x))

○ c.   -sech(sqrt(x))

○ d.   -csch(sqrt(x))

○ e.   -sech(sqrt(x))/csch(sqrt(x))

Save Answer

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6. q23F071 (Points: 4)

Starting with x1 = 1, the approximation x3 to the root of the equation x + ln x = 0 obtained by using Newton's method is

  ○ a.   (1+ln 2)/3

  ○ b.   (1-ln 2)/3

  ○ c.   1/2

  ○ d.   ln 2

  ○ e.   3/5 + (3/5) ln(2/3)

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7. q24F081 (Points: 4)

If M and m are the absolute maximum and the absolute minimum, respectively, of the function f (x) = x sqrt(4-x^2) on [-1, 2], then sqrt(3)M + 4m =

  ○ a.   -3

  ○ b.   3

  ○ c.   -3sqrt(3)

  ○ d.   -2sqrt(3)

  ○ e.   sqrt(3)

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8. q3F081 (Points: 4)

The sum of all critical numbers of the function f(x) = (x^2 + 3x + 2)^(4/5) is

  ○ a.   -5/2

  ○ b.   -7/2

  ○ c.   -3/2

○ d.   -9/2

○ e.   -3

[Save Answer]

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9. q5F083 (Points: 4)

The radius of a circle increases from 3 cm to 3.025 cm. Using differentials, the best approximation in the increase of its area is equal to

○ a.   0.09 Pi

○ b.   0.45 Pi

○ c.   0.18 Pi

○ d.   0.15 Pi

○ e.   0.75 Pi

[Save Answer]

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