

Q10+Q11+Q12

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Started: December 6, 2010 10:36 AM

Questions: 12

Instructions

$\sqrt{4}$ = square root of 4 = 2 <<< Arctan = tangent inverse <<< Arcsin = sine inverse <<< $\pi = 3.14\dots$ <<< $d^2 y / dx^2 = y''(x)$ <<<< Question delivery: Deliver questions one at a time and do not allow questions to be revisited.

1.

(Points: 4)

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

- a. -2
- b. $-4x^{-6}$
- c. $-6x^{-4}$
- d. $2x^{-3}$
- e. 0

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(Points: 3)

View Assessment (Navigation Bar)

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Time	10:39:58
Allowed	00:50:00
Remaining	00:46:40

Question Status

- Unanswered
- Answer not saved
- Answered

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The equation of the tangent line to the graph of $y = -\pi + 4 \operatorname{Arctan}(2/x)$ at $x = 2$ is

a. $y = \pi x - 2\pi$

b. $y = -x + 2$

c. $y = -\pi x + 2\pi$

d. $y = -x + \pi$

e. $y = 2x - 4$

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3.

(Points: 3)

If $x^2 + y^2 = 10$, then the value of $d^2 y / d x^2$ at the point $(1, 3)$ is

a. $\sqrt{2}/2$

b. $-10/27$

c. $10/3$

d. $-26/3$

e. 0

[Save Answer](#)

4.

(Points: 4)

$$\lim_{x \rightarrow -2} [\tan(x+2)/(x^2-4)] =$$

- a. 4
- b. - 4
- c. 1/4
- d. - 1/4
- e. inf

[Save Answer](#)

5.

(Points: 4)

If $y = \sqrt{\sin(\csc(\pi x))}$, then the product $2y^{1/4}y'(1/4)$ is equal to

- a. $\sqrt{2}\pi\cos(\sqrt{2})$
- b. $\sqrt{2}\pi\cot(\sqrt{2})$
- c. $\sqrt{2}\pi\csc(\sqrt{2})$
- d. $-\sqrt{2}\pi\sin(\sqrt{2})$
- e. $-\sqrt{2}\pi\cos(\sqrt{2})$

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6.

(Points: 4)

If $(0, a/4)$ are the coordinate of the y-intercept of the tangent line to the graph of $y = \text{Arcsin}(2x)$ at $x = \sqrt{2}/4$, then $a =$

- a. $\pi - 1$
- b. $\pi + 4$
- c. $\pi + 4\sqrt{2}$
- d. $4\sqrt{2}\pi$
- e. $\pi - 4$

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7.

(Points: 3)

If a particle is moving according to a law of motion $S(t) = 3\cos(\pi t/2)$ where t is measured in seconds and S in meters, then the total distance traveled by the particle during the time interval $[0, 7]$ is

- a. 12 meters
- b. 24 meters
- c. 21 meters
- d. 18 meters
- e. 15 meters

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8.

(Points: 3)

If $y = \ln [2 (x + \sqrt{x^2 - 1}) / 3]$, then $y'(\sqrt{2}) =$

- a. $1/(1+\sqrt{2})$
- b. $2/3$
- c. $2(1+\sqrt{2})/3$
- d. 1
- e. $3/2$

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9.

(Points: 3)

If $f(x)=x^{(\ln x)}$, then $f'(e)=$

- a. 1
- b. 2
- c. e
- d. $4e$
- e. $4e^2$

[Save Answer](#)

10.

(Points: 3)

If $f(x) = 2^{(-x)} * x^2$, then $f'(1) =$

- a. 0
- b. $1 + (1/2) \ln 2$
- c. $16(1 + \ln 2)$
- d. $1 - (1/2) \ln 2$
- e. 1

[Save Answer](#)

11.

(Points: 3)

If $f(x) = \sin(2x)$, then $f^{(99)}(0) =$

- a. $2^{(99)}$
- b. $-2^{(99)}$
- c. $-2^{(98)}$
- d. $2^{(98)}$
- e. 0

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12.

(Points: 3)

Which one of the following statements is TRUE?

- a. If g is continuous at a , then g is differentiable at a .
- b. If $\lim_{x \rightarrow a} g'(x)$ exists, then g' is continuous at a .
- c. If g' is differentiable at a , then $g'(a)$ exists.
- d. If $g'(a)$ does not exist, then g is discontinuous at a .
- e. If $g(a) = 0$ and $g'(a) = 0$, then $g''(a) = 0$.

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