

Math 1500: iClicker Questions

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1 9-05-2008

Question 1 Which of the following is false?

- A. A function is invertible if it is one to one.
- B. If the graph of a function passes the horizontal line test then the function is invertible.
- C. If the graph $y = f(x)$ is such that no x value corresponds to two y values then the function is invertible
- D. If a function $f(x)$ has inverse function $g(x)$ then $g(f(x)) = x$.
- E. If a function $f(x)$ has inverse function $g(x)$ then $f(g(x)) = x$.

Answer to Question 1 Which of the following is false?

- A. A function is invertible if it is one to one.
- B. If the graph of a function passes the horizontal line test then the function is invertible.
- C. If the graph $y = f(x)$ is such that no x value corresponds to two y values then the function is invertible is the correct answer.**
- D. If a function $f(x)$ has inverse function $g(x)$ then $g(f(x)) = x$.
- E. If a function $f(x)$ has inverse function $g(x)$ then $f(g(x)) = x$.

Question 2 Suppose that $\ln(a) = 4$ and $\ln(b) = 5$ and $\ln(c) = 6$.
Find the value of

$$\ln\left(\frac{c^{1/3}}{ab}\right)$$

- A. -7
- B. 3
- C. -3
- D. $2^{1/3} - 9$
- E. $2^{1/3} + 1$

Answer to Question 2 Suppose that $\ln(a) = 4$ and $\ln(b) = 5$ and $\ln(c) = 6$. Find the value of

$$\ln\left(\frac{c^{1/3}}{ab}\right)$$

A. -7 is the correct answer.

B. 3

C. -3

D. $2^{1/3} - 9$

E. $2^{1/3} + 1$

Question 3 Solve for x in the equation $\log_{10}(x + 1) = 3$

A. $e^3 - 1$

B. $e^3 + 1$

C. 29

D. 1001

E. 999

Answer to Question 3 Solve for x in the equation $\log_{10}(x + 1) = 3$

A. $e^3 - 1$

B. $e^3 + 1$

C. 29

D. 1001

E. 999 is the correct answer.

2 9-16-08

Question 1 If $y = \left(\frac{x}{4}\right)^2 + \left(\frac{4}{x}\right)^2$ find $\frac{dy}{dx}$.

A. $\frac{x}{2} + \frac{8}{x}$

B. $\frac{x}{8} - 32x^{-3}$

C. $\frac{x}{2} - 32x^{-3}$

D. $\frac{x}{8} - \frac{8}{x}$

E. None of the above

Answer to Question 1 If $y = \left(\frac{x}{4}\right)^2 + \left(\frac{4}{x}\right)^2$ find $\frac{dy}{dx}$.

A. $\frac{x}{2} + \frac{8}{x}$

B. $\frac{x}{8} - 32x^{-3}$ is the correct answer.

C. $\frac{x}{2} - 32x^{-3}$

D. $\frac{x}{8} - \frac{8}{x}$

E. None of the above

Question 2 If $f(x) = \frac{1}{3x^2 + 2}$ find $f'(x)$.

A. $\ln(3x^2 + 2) 6x$

B. $-(3x^2 + 2)^{-2}$

C. $\frac{-6x}{(3x^2 + 2)^2}$

D. $\frac{-1}{(3x^2 + 2)^2}$

E. None of the above

Answer to Question 2 If $f(x) = \frac{1}{3x^2 + 2}$ find $f'(x)$.

A. $\ln(3x^2 + 2) 6x$

B. $-(3x^2 + 2)^{-2}$

C. $\frac{-6x}{(3x^2 + 2)^2}$ **is the correct answer.**

D. $\frac{-1}{(3x^2 + 2)^2}$

E. None of the above