

Quiz 3.3

Name _____

1. An increasing function f satisfies $f(10) = 5$ and $f'(10) = 8$. Which of the following statements about the inverse of f must be true?

(A) $(f^{-1})'(5) = 10$

(B) $(f^{-1})'(8) = 10$

(C) $(f^{-1})'(5) = 8$

(D) $(f^{-1})'(5) = \frac{1}{8}$

2. For which of the following decreasing functions f does $(f^{-1})'(10) = -\frac{1}{8}$?

(A) $f(x) = -5x + 15$

(B) $f(x) = -2x^3 - 2x + 14$

(C) $f(x) = -x^5 - 4x + 15$

(D) $f(x) = e^{-2x} - x + 9$

3. Let f and g be inverse functions that are differentiable for all x . If $f(3) = -2$ and $g'(-2) = -4$, which of the following statements must be false?

1. $f'(0) = \frac{1}{4}$

2. $f'(3) = -\frac{1}{4}$

3. $f'(5) = -\frac{1}{4}$



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- (A) I only
- (B) II only
- (C) III only
- (D) I and III only