Name: _____

Section: _____

Math 10560, Quiz I
January 24, 2017

- The Honor Code is in effect for this quiz. All work is to be your own.
- Please turn off all cellphones and electronic devices.
- Calculators are NOT allowed
- The quiz lasts for 10 min.

PLEASE MARK YOUR ANSWERS WITH AN X, not a circle!

1.	(a)	(b)	(c)	(d)	(e)
2.	(a)	(b)	(c)	(d)	(e)

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Multiple Choice

1.(2 pts.) The function

$$f(x) = 17 + \ln(x^3 - 7)$$

is a one-to-one function (There is no need to check this). What is $(f^{-1})'(17)$?

(a) $\frac{1}{40}$ (b) $\frac{1}{15}$ (c) 12 (d) $\frac{1}{12}$ (e) 40

2.(2 pts.) Differentiate the function

$$f(x) = \frac{(x^4 - 2)^4 x^2}{(x+3)^5}.$$

(a) $f'(x) = \dfrac{16x^3}{x^3 - 2} + \dfrac{2}{x} - \dfrac{5}{x+3}$

(b) $f'(x) = \dfrac{16x^4(x^3-2)^3 + (x^4-2)^4 2x}{5(x+3)^5}$

(c) $f'(x) = \dfrac{(x^4 - 2)^4 x^2}{(x+3)^5}\left(\dfrac{16x^3}{x^3 - 2} + \dfrac{2}{x} - \dfrac{5}{x+3}\right)$

(d) $f'(x) = \dfrac{(x^3 - 2)^4 x^2}{(x+1)^5}\left(\dfrac{12x^2}{x^3 - 2} + \dfrac{2}{x} - \dfrac{5}{x+1}\right)$

(e) $f'(x) = \dfrac{(x^4 - 2)^4 x^2}{(x+3)^5}\left(16x^3(x^3-2) + 2x - 5(x+3)\right)$

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