Name: _____

Section: _____

Math 10560, Quiz II
January 31, 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.(5 pts.) Simplify the expression

$$\log_5 \left(\frac{5^{x^2+1}}{25^x} \right) .$$

(a) x^2 (b) 2 (c) $x^2 - x + 1$

(d) 1 (e) $(x-1)^2$

2.(5 pts.) A savings account has a yearly interest rate of r. Let $y(t)$ be the balance of the savings account after t years, and suppose the compounding of interest on the account is such that $y(t)$ satisfies the condition $y'(t) = ry(t)$. For which value of r will your initial investment triple in 15 years? That is, solve for r in the equation $3P = Pe^{15r}$ where P is a nonzero number.

(a) $r = \frac{1}{15} \ln 3$ (b) $r = \ln \frac{1}{5}$

(c) $r = 3^{1/5} - 1$ (d) $r = \ln 3 - 15$

(e) cannot be determined

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