Name: _____

Section: _____

**Math 10560, Quiz 10**
**April 18, 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) |

Name: _____

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## Multiple Choice

**1.**(2 pts.) Which series below is a power series representation, valid for $-1 < x < 1$, of the function

$$f(x) = \frac{x^2}{1+x^3} \ ?$$

(a) $\displaystyle\sum_{n=0}^{\infty} x^{3n}$ (b) $\displaystyle\sum_{n=0}^{\infty} x^{3n+2}$ (c) $\displaystyle\sum_{n=0}^{\infty} (-1)^n x^{3n+2}$

(d) $\displaystyle\sum_{n=2}^{\infty} \frac{(-1)^n x^{3n}}{(3n)!}$ (e) $\displaystyle\sum_{n=0}^{\infty} \frac{x^{3n+2}}{3n+2}$

**2.**(2 pts.) Find the radius of convergence of the power series

$$\sum_{n=0}^{\infty} \frac{(-1)^n (6x+1)^n}{n+1}.$$

(a) $R = \dfrac{1}{6}$ (b) $R = 0$

(c) $R = \infty$ (d) $R = 6$

(e) $R = 1$

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| | | | | | |
|---|---|---|---|---|---|
| 1. | (a) | (b) | (•) | (d) | (e) |
| 2. | (•) | (b) | (c) | (d) | (e) |