Office hours through the end of classes

A few changes

- Thursday, March 26: from 12:30–2:00pm (one hour earlier than usual)
- Monday, March 30: usual time (11:00am–12:30pm), but I might be late (a PhD student is defending their dissertation that morning)
- Thursday, April 2: 1:30–3:00pm as usual
- Monday, April 6: University holiday, so no in-person office hours; I'll hold Piazza office hours from 11:00am–12:30pm
- Thursday, April 9: 1:30–3:00pm as usual

These changes have been posted on our section's web page.

Wednesday, March 25

Clicker Questions

Clicker Question 1

What about here? . . . what about here?

Suppose the power series $\sum_{n=0}^{\infty} c_n(x-3)^n$ converges when $x = -2$ and diverges when $x = -5$. Of the values $x = -6$, $x = -4$, $x = 1$, $x = 4$, $x = 7$, $x = 9$, $x = 12$, where can we be sure that the series converges?

A. at $x = 1$, $x = 4$, and $x = 7$

B. at $x = -4$, $x = 1$, and $x = 4$

C. at $x = -4$, $x = 1$, $x = 4$, $x = 7$, and $x = 9$ (maybe)

D. only at $x = 1$

E. none of the above

Close enough to 3

The series converges at $x = -2$, so the radius of convergence is at least $|(-2) - 3| = 5$. The series diverges at $x = -5$, so the radius of convergence is at most $|(-5) - 3| = 8$. . . .

Clicker Question 2

e-sy question?

Which of the following expressions equals Euler's number e?

A. the unique number t such that $\lim_{h\to 0} \dfrac{t^h - 1}{h} = 1$

B. $\lim_{n\to\infty} \left(1 + \dfrac{1}{n}\right)^n$

C. $\lim_{n\to\infty} \dfrac{n}{\sqrt[n]{n!}}$

D. $\displaystyle\sum_{n=0}^{\infty} \frac{1}{n!} = 1 + \frac{1}{1!} + \frac{1}{2!} + \frac{1}{3!} + \cdots$

E. all of the above