

Today

- Murder on Halloween
- Requested problems

All Hallow's Eve

- At 8:15 am, the temperature of the body is 32°C. The air temp is 14°C.
- When you leave the crime scene at 10:15 am, it is 31.24°C.
- What's the value of k in Newton's Law of Cooling?

(A) $k = 0.61 \text{ } ^\circ\text{C hr}^{-1}$

(C) $k = 0.61 \text{ hr}^{-1}$

(B) $k = 0.0216 \text{ hr}^{-1}$

(D) $k = 0.0216 \text{ } ^\circ\text{C hr}^{-1}$

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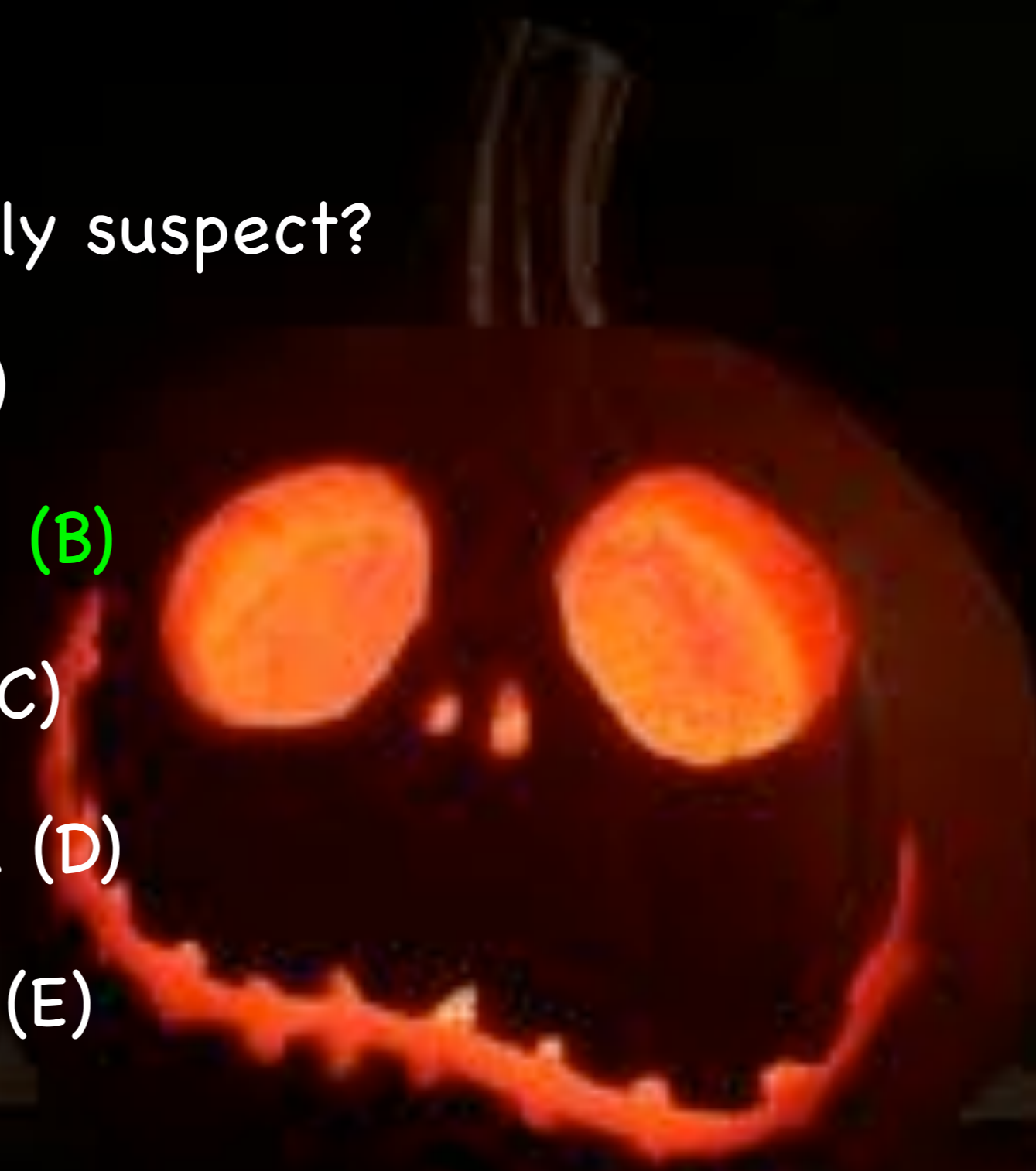
All Hallow's Eve

- Who is the most likely suspect?
 - 8:38 pm - Tina (A)
 - 8:55 pm - Jinsong (B)
 - 9:05 pm - Maria (C)
 - 9:12 pm - Ali-reza (D)
 - 9:27 pm - Chadni (E)



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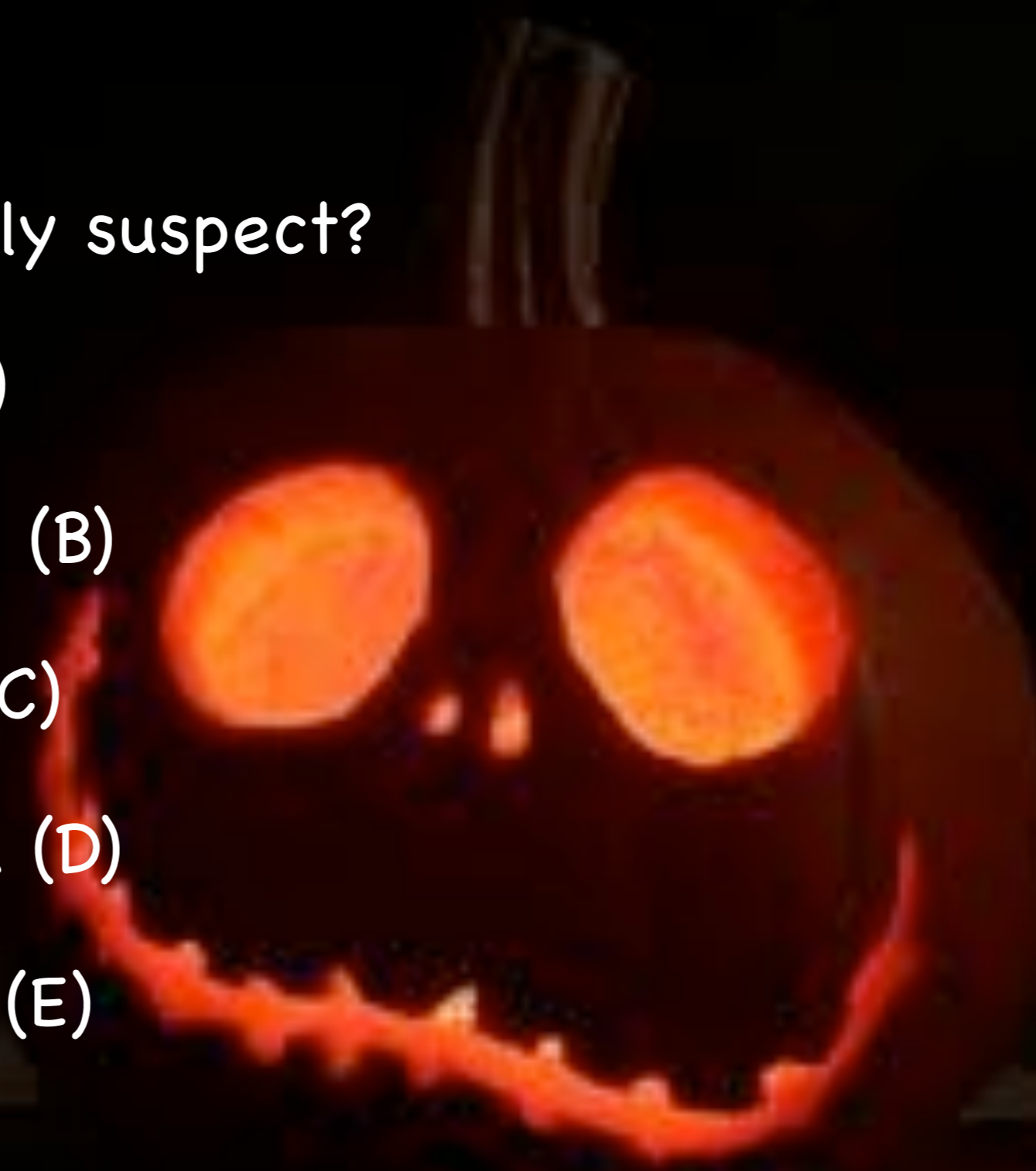
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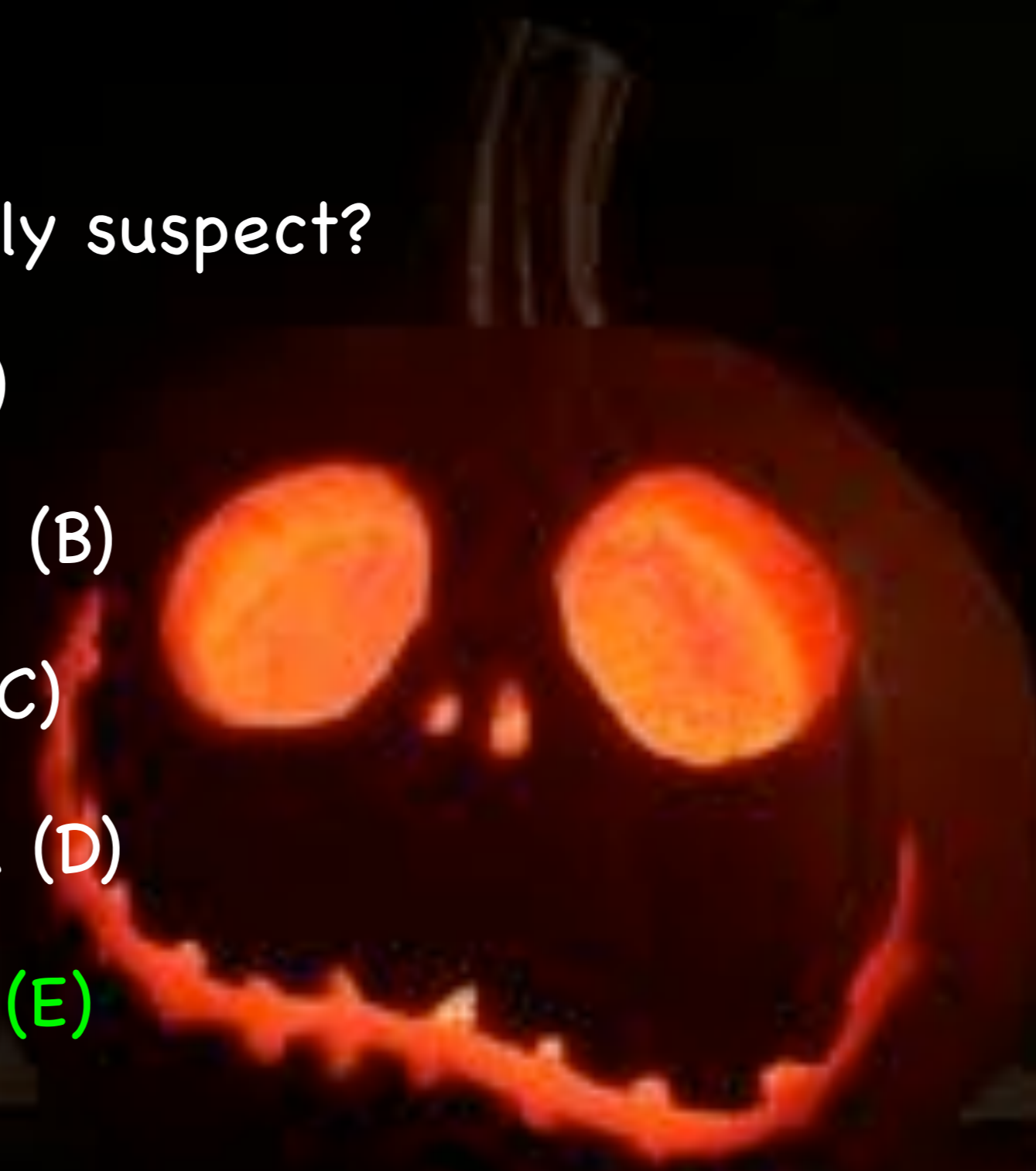
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Estimating time of death

- Apparently, the rule of thumb used in practice is “subtract 0.8°C for every hour after death” (assuming room temp?).
- What is this rule?
- Linear approximation to exponential decay!

Problems to discuss

- (A) Fixed perimeter, maximize area of $O+\square$.
- (B) Foraging – if there is a specific question.
- (C) Psychophysics from last year.
- (D) Sketch a graph.