

Newton's Law of Cooling.
(problem from 1st day of class).

Murder mystery

$$65^\circ = A$$

$$3 \text{ a.m. body temp} = 85^\circ$$

$$4 \text{ a.m. " " } = 80^\circ$$

When did the body die, (using Newton's Law of Cooling model)?

$$\frac{dT}{dt} = k(A - T)$$

take $t=0$ to be 3 a.m.

(I deduce death at $\approx 1:12$:)