Change in Temperature = f(time)

Starting with data is not the only way we create models. Sometimes we start with an understanding of the way two things are related and use that to create modeled data. Forensic experts and medical examiners know that the human body, after death, loses about 6.106%/hour of the difference between normal body temperature, 98.6° F, and the temperature of the surrounding air. Imagine you're a medical examiner who has just been called to a scene where a murder victim's body has been placed in a freezer at 32° F. Model body temperature as a function of time. Extrapolate to estimate body temperature after 18 hours. Use the inverse function to estimate how long ago the murder was committed if the body temperature is 48.2° F.

