

The following equation describes the temperature of a pizza after you pull it out of an oven.

$$h(t) = 120e^{-0.11t} + 90$$

- At what rate is the pizza cooling?
- How hot was the pizza when you pulled it out of the oven?
- What is the temperature of the room?
- Why won't the pizza ever be hotter than 320 degrees or colder than 70 degrees?
- How long will it take for the pizza to get to 100 degrees?

The following equation describes the temperature of a pizza after you pull it out of an oven.

$$h(t) = 120e^{-0.11t} + 90$$

- At what rate is the pizza cooling? 11%
- How hot was the pizza when you pulled it out of the oven? 210°
- What is the temperature of the room? 90°
- Why won't the pizza ever be hotter than 320 degrees or colder than 70 degrees? *If you pulled it out & it was 210° , it will not get hotter in order to reach 320° . Since the room is 90° , it will never get colder than the room it is in.*
- How long will it take for the pizza to get to 100 degrees?

$$100 = 120e^{-0.11t} + 90$$

$$\frac{10}{120} = \frac{120e^{-0.11t}}{120}$$

$$e^{-0.11t} = \frac{1}{12}$$

$$\frac{\ln(\frac{1}{12})}{-0.11} = \frac{-0.11t}{-0.11}$$

$$t \approx 22.6 \text{ minutes}$$