

Illustrative Mathematics

F-IF Warming and Cooling

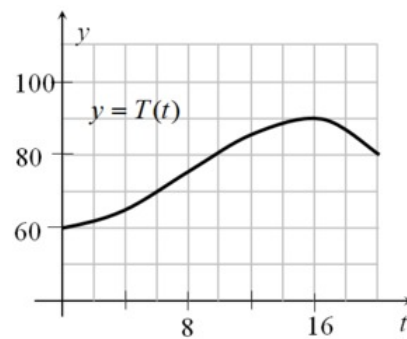
Alignments to Content Standards

- [Alignment: F-IF.B.4](#)

Tags

- *This task is not yet tagged.*

The figure shows the graph of T , the temperature (in degrees Fahrenheit) over one particular 20-hour period in Santa Elena as a function of time t .



- Estimate $T(14)$.
- If $t = 0$ corresponds to midnight, interpret what we mean by $T(14)$ in words.
- Estimate the highest temperature during this period from the graph.
- When was the temperature decreasing?
- If Anya wants to go for a two-hour hike and return before the temperature gets over 80 degrees, when should she leave?

Commentary

This task is meant to be a straight-forward assessment task of graph reading and interpreting skills. This task helps reinforce the idea that when a variable represents time, $t = 0$ is chosen as an arbitrary point in time and positive times are interpreted as times that happen after that.

Solutions

Solution: Answers

- a. $T(14)$ is a little less than 90 degrees Fahrenheit; maybe 88 or 89 degrees.
 - b. The temperature was almost 90 degrees at 2:00 in the afternoon.
 - c. The highest temperature was about 90 degrees.
 - d. The temperature was decreasing between 4:00 p.m. and 8:00 p.m. It might have continued to decrease after that, but there is no information about the temperature after 8:00 p.m.
 - e. The temperature reaches 80 degrees just before 10:00 a.m. If Anya wants to go for a two-hour hike and return before the temperature gets over 80 degrees, then she should start her hike before 8:00 a.m.
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