Istituto Superiore E. Majorana - Mirano (VE)

Modelli lineari 2 (aprile 2016)

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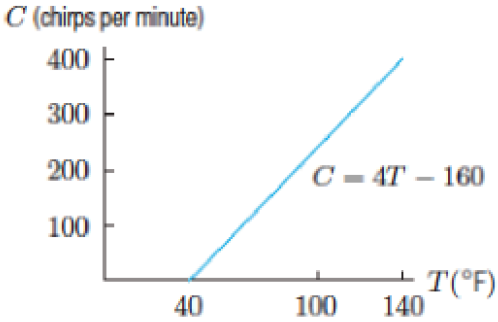
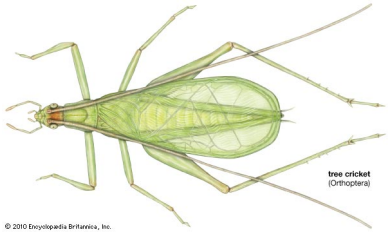
5. The snow tree cricket. Surprisingly enough, all such crickets chirp at essentially the same rate if they are at the same temperature. That means that the chirp rate is a function of temperature. In other words, if we know the temperature, we can determine the chirp rate. Even more surprisingly, the chirp rate, C, in chirps per minute, increases steadily with the temperature, T, in degrees Fahrenheit, and can be computed, to a fair degree of accuracy, using the formula

$$C = f(T) = 4T - 160$$





5.1 Qual è il significato del numero 4 che compare nella formula $C = 4T - 160$?

5.2 Qual è il significato dell'uguaglianza $f(60) = 80$?

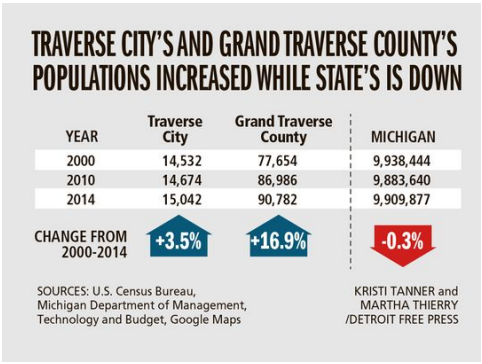
5.3 Qual è la particolarità che rende speciale la temperatura 40°F per la funzione f?

6. Traverse City's population was 14,532 in the year 2000 and is grown by K people a year, till to 2010 when it was 14,674.

6.1. Find the value of number K.

6.2. What was the population of Traverse City in 2005?

6.3. Give a formula for the city's population P, as a function of the year t, since 2000 to 2010.



7. Annual revenue R from McDonald's restaurants worldwide can be estimated by

$$R = 19.1 + 1.8t$$

Where R is in billion of dollars and t is in years since 2005.

7.1. Qual è il significato del numero 19.1?

7.2. Qual è la coordinata R del punto di coordinate $(0, R)$ del grafico della funzione $R = 19.1 + 1.8t$?

7.3. What annual revenue does the function predict for 2015?

7.4. When is annual revenue pedicted to hit 30 billion dollars?