2.16 Do Now: Linear regression and correlation

1. The flash rate of fireflies depends on various factors, including temperature. As the temperature drops, the flash rate slows down.

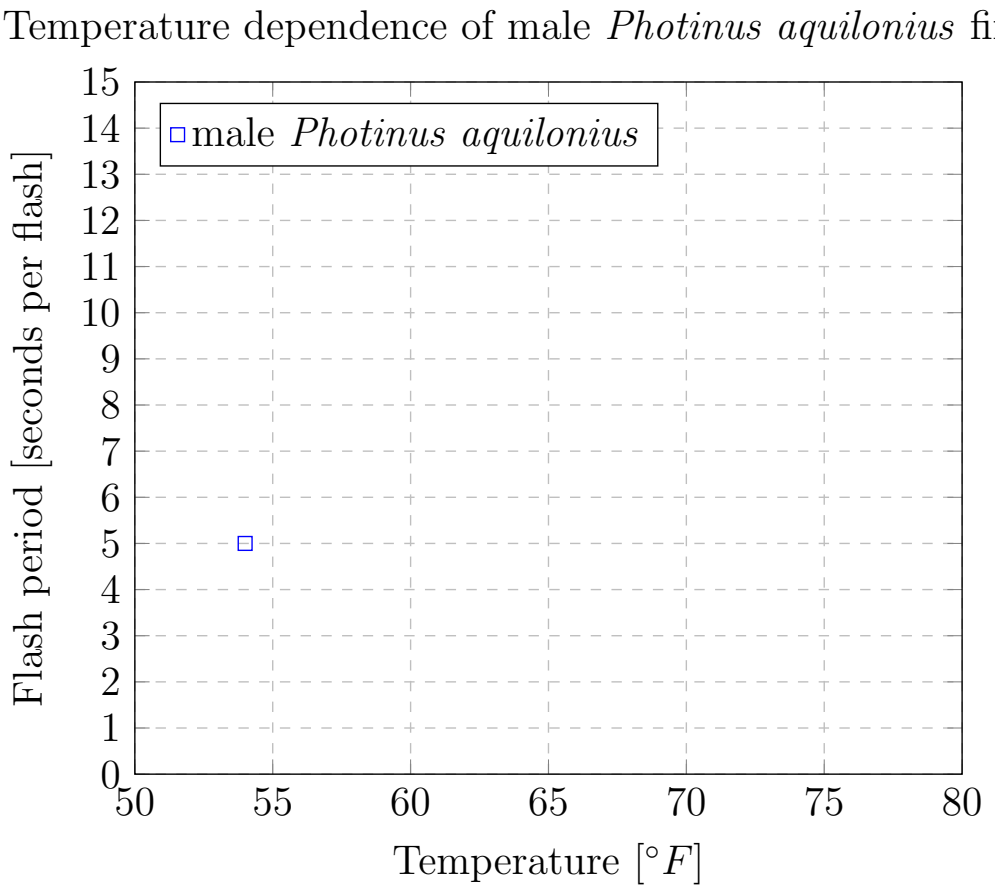
   Firefly field data (simulated) where T is the temperature and $f(T)$ is the number of seconds between flashes.

T	54	60	64	70	75
$f(T)$	5	8	10	11	13

   (a) Plot the data in the table on the grid below
   (one point is plotted for you)

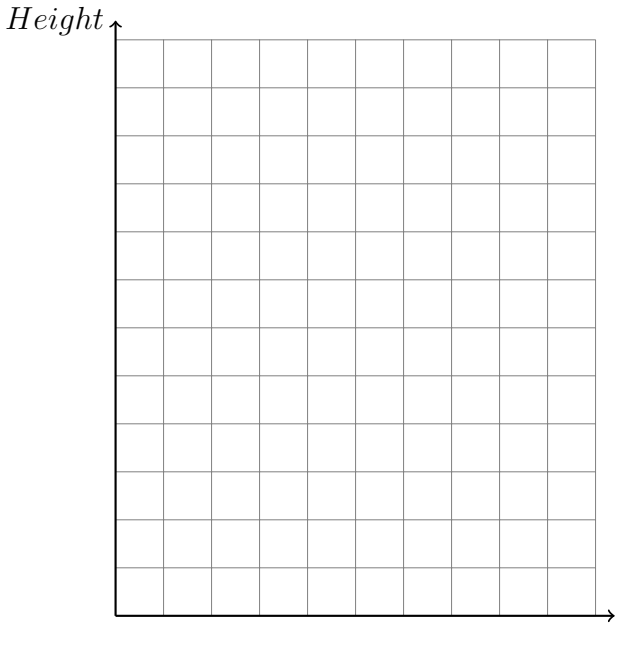
   (b) Calculate $\bar{x}$ and $\bar{y}$

   (c) Enter the data in your calculator



2. Dr. Huson buys a new plant and measures how tall it is after a number of weeks. Some of his measurements are shown below. Plot the points in the grid below.

Weeks	2	5	7	10
Height (cm)	5	6	8	9



Calculator
$ax + b$
$a = 0.529$
$b = 3.82$
$r = 0.976$

State, to the *nearest tenth*, the linear regression equation that approximates the height, y, of the plants after x weeks.

Explain what the y-intercept means in the context of the problem.

Explain what the slope means in the context of the problem.