|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| There seems to be a relationship between how hungry a praying mantis (also called a “mantid”) is and the distance at which the praying mantis will strike (jump) at prey. Here are some data for 15 mantids presented in GAIMME (Guidelines for Assessment & Instruction in Mathematics Modeling Education) that can be explored to investigate this relationship. *Based on these data, can you find a function that predicts the distance a praying mantis will strike based on how much food is in its stomach?*

|  |  |
| --- | --- |
| Food in stomach in centigrams (cg) | Striking distance in millimeters (mm) |
| 11 | 65 |
| 18 | 52 |
| 23 | 44 |
| 31 | 42 |
| 35 | 34 |
| 40 | 23 |
| 53 | 23 |
| 59 | 8 |
| 66 | 4 |
| 70 | 0 |
| 72 | 0 |
| 75 | 0 |
| 86 | 0 |
| 90 | 0 |

 |
| The GAIMME report is available here:http://www.siam.org/Portals/0/Publications/Reports/gaimme-full\_color\_for\_online\_viewing.pdf?ver=2018-03-19-115454-057 |