Anonymous

Date

MT5 Essay

Process Analysis Gravity Problem

Mr. Wood took his MT5 class outside on the baseball field to collect data on how gravity brings objects back to the earth. He shot arrows in the air from two different kinds of bows and we timed them as they went up and came down. Each group kept track of their time and placed their data in a chart…

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Arrow # | Group 1 | Group 2 | Group 3 | Group 4 | Group 5 | Average |
| 1 | 5.07 | 5.61 | 5.60 | 5.05 | 5.06 | 5.28 |
| 2 | 4.06 | 5.05 | 4.60 | 4.06 | 4.51 | 4.46 |
| 3 | 6.06 | 6.25 | 5.70 | 6.08 | 5.80 | 5.98 |
| 4 | 10.88 | 10.18 | 8.60 | 10.68 | 9.06 | 9.88 |
| 5 | 9.36 | 9.20 | 9.00 | 9.36 | 9.00 | 9.18 |

In this paper, I am going to analyze the data from one of the arrows that was shot in the air and using only the time it took to hit the ground, I am going to find out…

1. How fast was the arrow travelling when it hit the ground and;

2. How high did the arrow go?

The formula used for this type of problem is h=-16t2 + vt + c. The variables are defined as:

H = ending height (the ground is zero)

T = time the arrow spent in the air (9 seconds)

V = Velocity of the arrow when it hit the ground (unknown)

C = Starting height of the arrow (the archer was standing on the ground, c is zero)

The first step in solving is to substitute your know quantities for the correct variables and solve. The equation will now look like this…

0 = -16(9)2 + 9v + 0

Solve the problem in the next paragraphs. Solve just like you did on the EOT. Be sure to do your math separate from the text in the paragraph.

The last paragraph is used to sum up what you did.