Proof of 6 seconds traversal of the bugs

Total Height to Cover: 420px in 6000ms(6 seconds)

In order to find how many how the interval time to increment 1 px we can use ratio to solve this problem.

A : B = C : D

| 420px | 6000ms | 1px | ? |

Answer:

$$420 : 6000 = 1 : \mathbf{14.285714285714}$$

Solution:

Since
420 : 6000 = 1 : X

Then we know
6000/420 = X/1

Multiplying both sides by 1 cancels on the right
1 × (6000/420) = (X/1) × 1
1 × (6000/420) = X

Then solving for X
X = 1 × (6000/420)
X = 14.285714285714

Therefore
420 : 6000 = 1 : 14.285714285714

The above answer suggests that the ideal interval time should be 14.28ms when rounded that gives us **14ms.**

Therefore, the slider and the timing interval is set be default to 14ms to meet the criteria as per the assignment brief.

Source of calculation answer: https://www.calculatorsoup.com/calculators/math/ratios.php