

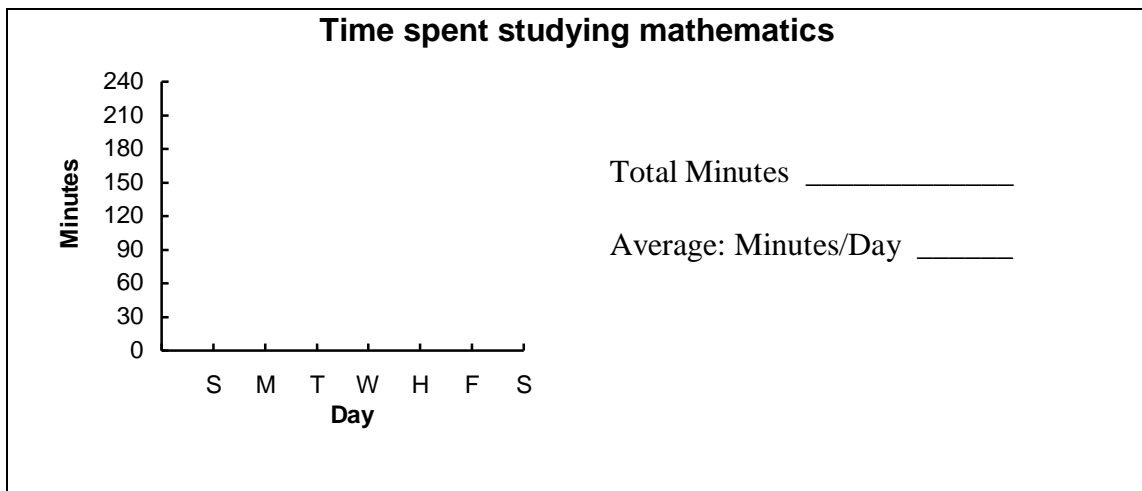
**Math Problem:** The height of an apple after it has been tossed from a balcony is recorded in one second intervals given by the table.

Time (seconds from drop)	0	1	2	3	4
Height (feet from the ground)	176	180	152	92	0

- (a) According to this data what is the height of the balcony?
- (b) This data can be modeled by a quadratic function. Write the quadratic function that can model this data in standard form.
- (c) Write this quadratic function in factored form.
- (d) Find the exact  $x$ -intercepts. What do the  $x$ -intercepts mean in the context of this problem?
- (e) Find the vertex of the parabola. Write a complete sentence describing what the specific coordinates mean in terms of this problem.
- (f) Write the quadratic function in vertex form.
- (g) When is the apple 100 feet from the ground? Round to the nearest tenth of a second. Explain what you did to get your answer.
- (h) Show how to find the solution to (g) algebraically.

**Journal Topic:**

1. What do you think your strengths are in this course?
  
  
  
  
  
  
  
  
  
  
2. What do you think your weaknesses are in this course?
  
  
  
  
  
  
  
  
  
  
3. What do you think would strengthen your weaknesses?



**Comments/Observations on the Course and your Progress (optional):**