



THE ADAMS BROTHERS



The Adams brothers are renowned for their physical strength and amazing athleticism. The four brothers decided to have a little contest between them. Each was to throw, shoot, or hit an object into the air. So Chris, Gregory, Pete, and Scott each chose their own object and the place from where they would launch them.

The following equations model the flight of each of the four objects.

$$y_1 = -16x^2 + 32x + 20$$

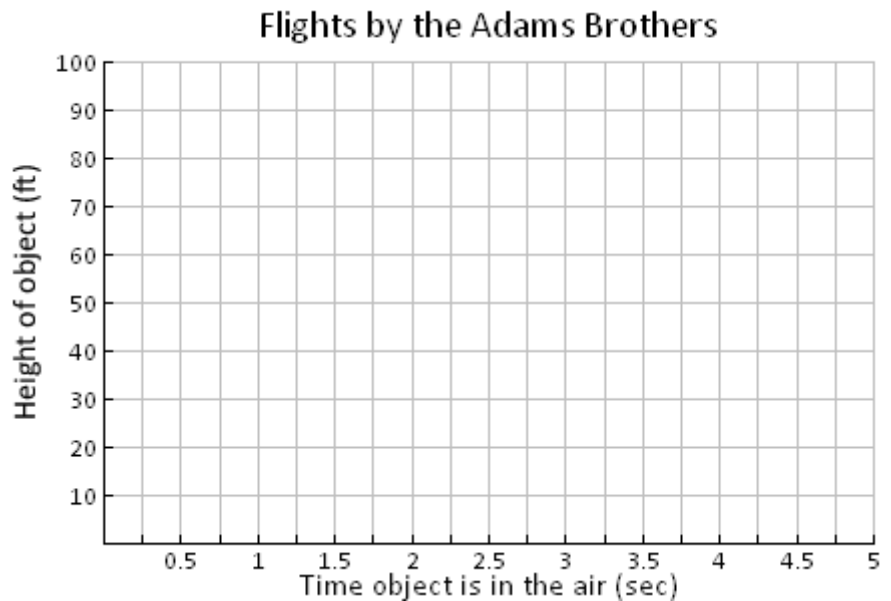
$$y_2 = -16x^2 + 64x + 20$$

$$y_3 = -16x^2 + 50x + 50$$

$$y_4 = -16x^2 + 80x + 0$$

Using the aid of your graphing calculator, plot each function on the grid provided.

(Hint: setting your table with steps of 0.25 will give you good data to plot.)



Using the clues below, determine what equation belongs to each brother as well as the object and their age order. Be prepared to share the reasoning you used.

- The youngest launched his object from atop the garage.
- Scott climbed a tall tree to launch his object.
- Chris's object went the highest.
- Pete's object was in the air the shortest amount of time.
- The arrow was shot by the oldest.
- The golf ball went 100 feet into the air.
- Scott shot his arrow higher than the tennis and bowling balls.
- The bowling ball reached its maximum height at 1 second.
- Chris's ball was in the air twice as long as the 2nd oldest brother.
- The objects of the youngest brothers were each in the air for more than 4 seconds.