

Water Balloon Target Practice



Laura, Kim, Bob and John are on different floors in the same building. They are each armed with one water balloon. They all want to hit Bernie who is 12 feet in front of the building. They each throw their balloons with a different arc given below:

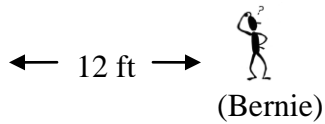
Bob throws in an arc with the equation $y = -x^2 + 12x + 45$.

John throws in an arc with the equation $y = -x^2 - 2x + 24$.

Kim throws in an arc with the equation $y = -x^2 + 11x + 12$.

Laura throws in an arc with the equation $y = -x^2 + 15x + 34$.

(a) Which one of them will hit Bernie??? (b) Explain how you arrived at this answer.



Extra Credit: (a) Of the four friends, which is at the highest window of the building?
(b) Explain how you arrived at this answer also.