

## IT'S OLNEY MATH

– Greg Coxson

It is a funny thing about the Farmers Market is that it can be hard to find even close friends or family members in the crowd. This month's puzzle is inspired by that phenomenon. It is in two similar parts, with the first part meant to be the easier of the two.

(a) Abbott, Bennie, Chad and Darryl are visiting the Olney Market. They are hoping to get together to share a breakfast of crêpes. The problem is, they cannot find each other. Interestingly, they are located (respectively) at points A, B, C and D, the vertices of a square of 30-foot sides. A, B, C and D are in order as the square is walked in a clockwise direction. Finally, Abbott sees Bennie, and moves toward him, always walking directly toward his current location. At the same moment, Bennie sees Chad and does the same. The same is true of Chad, who walks toward Darryl, and Darryl who walks toward Abbott. They all walk at exactly the same speed. Suppose that no impediments block their view or their path at any time. When they ultimately meet at the center of the square, they have traveled the same distance. No matter – it is time for breakfast! But how far did they travel?

(b) Suppose the next week, Darryl stayed at home. Abbott, Bennie and Chad again can't find each other. They are at A, B, and C which determine a triangle with sides of equal length, again 30 feet. They want to get together and have coffee from Zeke's. Then, the same thing occurs – Abbott sees Bennie and starts walking toward him, at the same time Bennie sees Chad and starts walking toward him, at the same time Chad sees Abbott and walks toward Abbott. At every point in time, they move directly toward where their friend is. They all walk at the same pace, and there are no impediments to their view or their path. When they finally meet in the center of the triangle, they agree to head toward Zeke's. But how far did they each travel to reach the meeting point?

This puzzle competition is for contestants in 5th grade to 12th grade.

Find a correct solution for each of these, and report them to the Olney Farmers Market organizers. If you do so before anyone else does, you will earn you a valuable prize.

Thanks for being a friend of the Olney Farmers Market!