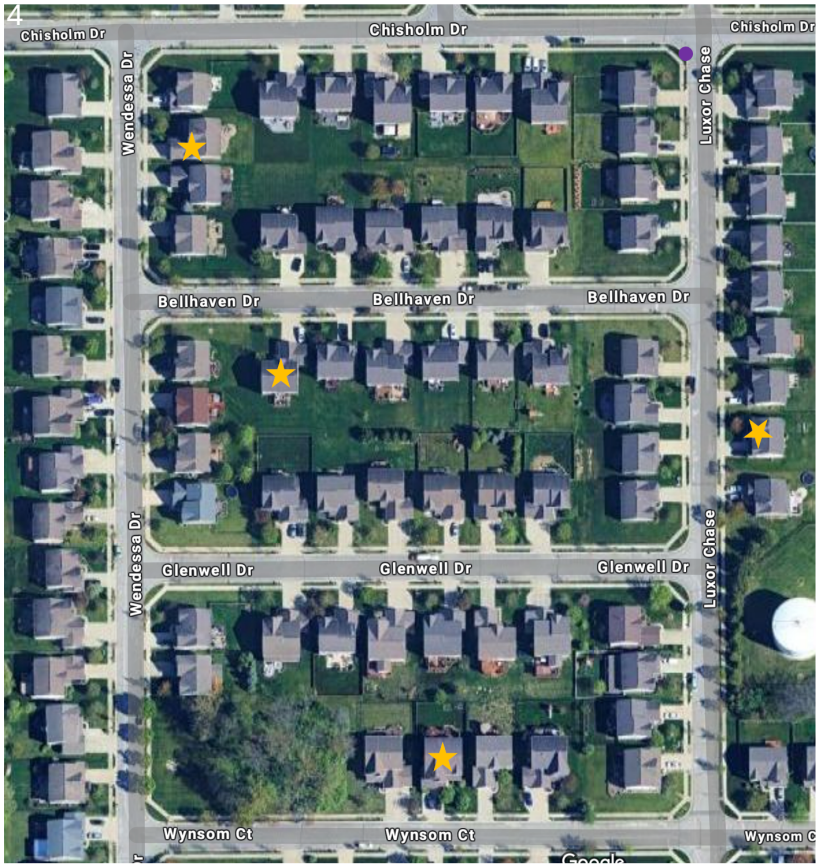
Math Mondays

Trick or Treating Path
6th – 8th grade questions

Three friends are planning their route to maximize the number of houses they can visit during Trick or Treating. Image 1 shows the neighborhood the friends will visit.

Image 1: Neighborhood Map



Facts:

- Horizontal and Vertical roads are parallel.
- Each horizontal road is 630 ft long.
- The distance between Chisholm Dr and Wynsom Ct is 900 ft.
- The distance between the horizontal roads is 300 ft.
- They must remain on the sidewalks and only cross the street at an intersection.
- The houses with a yellow star historically have given out the best candy and should not be missed.
- The friends begin their path at the corner of Luxor Chase and Chisholm Dr.
- The friends average rate while trick or treating is 1.25 ft/sec (which accounts for walking up to each house and getting candy).
- They have 90 minutes to complete their path!

6th grade question:

Jason suggests the path in Figure 1.

Figure 1: Jason's Path

Jason claims that they will complete this block within the neighborhood in a little over 20 minutes. Do you agree or disagree with Jason's claim? Justify your answer.

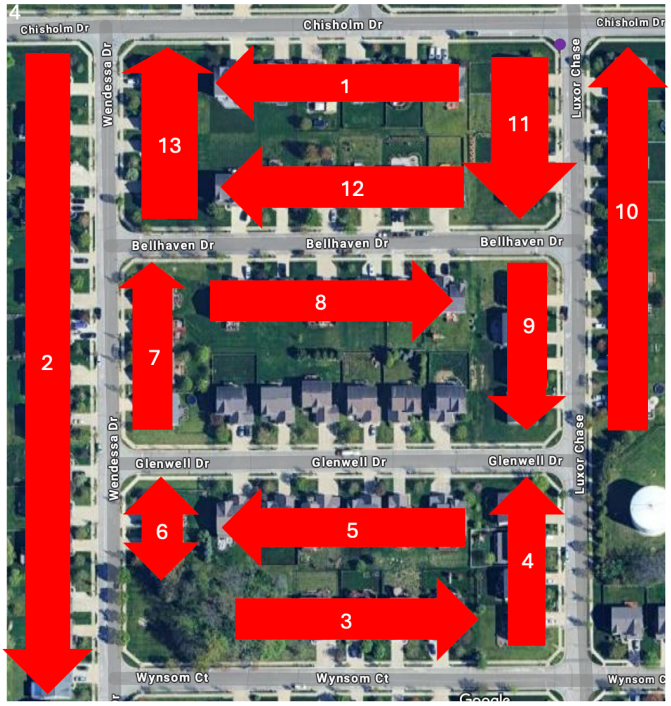
7th grade question:

The friends have the following goals:

1. Trick or treat at 90% or more of the houses in the neighborhood
2. Stop at all the houses with a yellow star, and
3. Back track as little as possible

Freddy suggests the route shown in Figure 2.

Figure 2: Freddy's Route

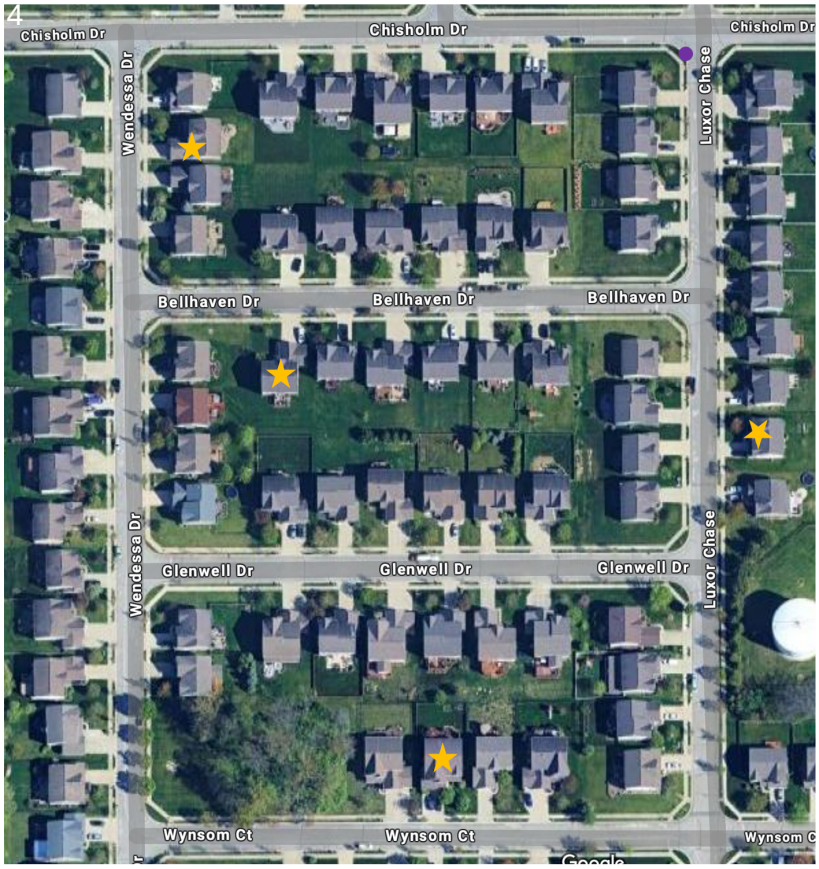


Freddy claims that his route meets all the goals and is within the given time for trick or treating. Do you agree or disagree with Freddy's claim? Justify your answer.

8th grade question:

The friends must begin and end at the corner of Chisholm Dr. and Luxor Chase. Draw a route onto the map to create a path for the friends to visit every house in the neighborhood and be within the time limit.

Image 1: Neighborhood Map



Justify that your route meets all the requirements.