

- Show students Dude Perfect Grocery Store video
https://www.youtube.com/watch?v=JHiLEkV8l_8
- Ask students what information is important for deciding which checkout line to pick. (make a list of student ideas).
- Ask students what information could be used to determine a mathematical solution. (narrow down the list) Aim for average time per person and average time per item.
- Give students time to develop a solution and have them represent their idea with a graph, table, and equation along with a specific example for how long of a wait time would be anticipated.
- After students have done their work, a discussion can occur that no model is perfect and that there are variables not considered in the model that we put together.
- Show the following article with the part that mentioned one idea is that it takes 41 seconds per person and 3 seconds per item. $y = 3x + 41$ (The time for one person with x being the number of items).
<https://www.nytimes.com/2016/09/08/business/how-to-pick-the-fastest-line-at-the-supermarket.html>
- Give students the scenarios on the next page and have them pick which line they would choose without doing any math. Agree on one equation to use for the whole class and have students determine which line would be the best mathematically.

After the activity, students can be shown the following 5 minute video in which Dan Meyer discussing the grocery store problem. Start at 39:46

<https://www.nctm.org/Conferences-and-Professional-Development/Webinars-and-Webcasts/2015-NCTM-Annual-Meeting---Ignite-Session/>

Which line would you choose?

Scenario #1

Line 1	Line 2
5	40
10	20
12	
13	

Each number represents one person and the number of items they have.

Scenario #2

Line 1	Line 2
3	68
4	
2	
1	
5	

Each number represents one person and the number of items they have.

Scenario #3

Line 1	Line 2
10	20
10	20
10	20
10	

Each number represents one person and the number of items they have.

Scenario #4

Line 1	Line 2
5	80
5	
5	
5	
5	

Each number represents one person and the number of items they have.