

Week 3 Lecture 3

September 15, 2017

- Stretch 11: Nine dots are placed in a square array, three rows of three. Without lifting your pencil from the paper, draw four straight lines that pass through all the dots. Can you do it with fewer lines?
 - **Hints:**
 - * Try drawing.
 - **Solution:** You need to draw the line “outside” the box.
- Chapter 4: See It
 - Mental Images (continued)
 - * **Bus Trip (Pg. 38)**
 - **Solution:** $328/40 = 8 \frac{1}{5}$ or 8.2 busses. Clearly, 8.2 busses is not very useful in the real world, so we would really need 9 busses. The idea behind this problem is to always make sure that the solution you get is viable.
 - * **Back and Forth Fly (Pg. 40)**
 - **Hints:** When will the fly die?
 - **Solution:** The fly will die when the two trains collide, so we really only need to determine when this happens. The trains are 200 miles apart and traveling at 50mph. So in 2 hours they will collide. The fly is flying at 80mph. So he will travel 160 miles before he gets smushed.