



3. This is a partial map of Parma, a 3 by 7 grid. We walk 10 blocks from the deli to catch the bus at Gilbert & 54th.

a) How many ways are there to walk if we exclude block X (don't use it) ?

b) How many ways if we use neither block X nor block Y ?

c) How many ways are there to walk if we go through intersection A (no exclusions)?

d) How many ways if we go through A but don't use block X?

e) How many ways if we go through X and A but don't use Y (real number answer)?

f) How many ways if we go through X and Y but avoid intersection A (real number answer)?

Bonus (1 pt.) How many ways to walk (no exclusions) if we have the option of cutting through Gerald Park? (from Snow Rd. to Gerald Ave.)