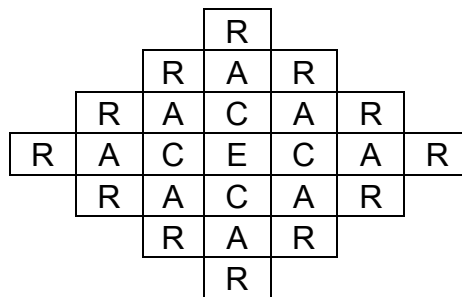At Mr. Fitz's school, they have 7 periods in a day. There is a student, Glenn, who wants to meet with Mr. Fitz outside of class about his algebra homework. Glenn has 3 out of the 7 periods free, and Mr. Fitz has 2 out of the 7 periods free.

Disregarding their other classes, how many ways are there to assign Glenn and Mr. Fitz their free periods?

How many ways are there for Glenn's and Mr. Fitz's schedules to have at least one overlapping free period?

Answer the questions above if Mr. Fitz's school has 8 periods in a day.

Start at any "R". You may move left, right, up or down. You may use the same box more than once. How many ways are there to spell 'RACECAR' in the picture below?

```
            R
        R   A   R
    R   A   C   A   R
R   A   C   E   C   A   R
    R   A   C   A   R
        R   A   R
            R
```

Draw a similar diagram for KRAPE PARK (a park in Illinois). How many ways are there to spell KRAPE PARK?