The goal here is to randomly and with equal probability create an algorithm that generates a number 1 through 7: F(7).

You can use multiplication, division, addition, subtraction, and modulus (note that modulus was assumed to be a basic algebraic operation when writing the problem).

You can also (and will need to) run the random generator F(5) twice.

To do this, you must create a 5 by 5 matrix with all values from 1 through 25, inclusive, non-repeated:

MATRIX 1

1	2	3	4	5
6	7	8	9	10
11	12	13	14	15
16	17	18	19	20
21	22	23	24	25

To understand why you have to make this, look at the matrix instead in this way:

MATRIX 2

1	2	3	4	5
6	7	1	2	3
4	5	6	7	1
2	3	4	5	6
7	0	0	0	0

If we were to throw darts at MATRIX 2, there's an equal probability of landing on 1 through 7. If we land on 0, we ignore this result and throw a dart again.

To create MATRIX 1, an acceptable solution (but probably not the only one) is:

I = 5* (F(5) - 1) + F(5)

Note that this equation results in all numbers from 1 to 25 inclusive, and does not repeat any of these values. This equation populates MATRIX 1. To turn MATRIX 1 into MATRIX 2, you use the following equation:

(I % 7) + 1

Which results in:

MATRIX 2 (incorrect)

1	2	3	4	5
6	7	1	2	3
4	5	6	7	1
2	3	4	5	6
7	2	3	4	5

However, throwing a dart at this matrix does not give a probability of $1/7^{th}$

To fix this, we only run the second equation when I is =< 21

This gives use the correct MATRIX 2

MATRIX 2

1	2	3	4	5
6	7	1	2	3
4	5	6	7	1
2	3	4	5	6
7	0	0	0	0

Thus, the final solution is:

I = 5* (F(5) - 1) + F(5)

If (I <= 21){

(I % 7) + 1

}

Else{

Run first equation again

}

//Note that code or pseudocode is not necessary in your solution and is only used for clarity (hopefully) in this solution