**Section 6.1** Exercises 10 – 12 ask about strings of length 5 formed using the letters ABCDEFG

WITHOUT Repetitions

**Problem 11** - How many strings begin with the letter F and do not end with EB in that order?

First, we solve for the letter F with strings of length 5

1 2 3 4 5 = Strings of length 5

F X X X X = Strings that start with the letter F

1\*6\*5\*4\*3 = 360

Next, we solve for the number of strings of length 5 that begin with F and end in EB

1 2 3 4 5 = Strings of length 5

F X X E B = Strings that start with the letter F and end with E B in that order

1\*4\*3\*1\*1 = 12

We now subtract 12 from 360

360 – 12 = 348

There are 348 strings that begin with the letter F and do not end with EB in that order

AND….

If you really want proof….

Go to the next page!

f,a,b,c,d

f,a,b,c,e

f,a,b,c,g

f,a,b,d,c

f,a,b,d,e

f,a,b,d,g

f,a,b,e,c

f,a,b,e,d

f,a,b,e,g

f,a,b,g,c

f,a,b,g,d

f,a,b,g,e

f,a,c,b,d

f,a,c,b,e

f,a,c,b,g

f,a,c,d,b

f,a,c,d,e

f,a,c,d,g

~~f,a,c,e,b~~

f,a,c,e,d

f,a,c,e,g

f,a,c,g,b

f,a,c,g,d

f,a,c,g,e

f,a,d,b,c

f,a,d,b,e

f,a,d,b,g

f,a,d,c,b

f,a,d,c,e

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f,a,d,e,c

f,a,d,e,g

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