(*4 points*) How many strings can be formed by ordering the letters $ABCDEF$ such that the string contains either of the substrings AD or BEF? Be sure to show your work and, to maximize partial credit, discuss your work.

ABCDEF = 6! = 720

AD, B, C, E, F = 5! = 120

BEF, A, C, D = 4! = 24

+ 144

720 - 144 = 576

5. (*4 points*) How many strings can be formed by ordering the letters $ABCDEF$ such that A appears before C, C appears before D, and E appears before F? Be sure to show your work and, to maximize partial credit, discuss your work.

6 strings

ACDEF -> B can be ordered

6 ways before

any letter or at

the end