

# Take-Home Exam 2

~~Prob 1)  $n=16$   $m=12$  TC~~

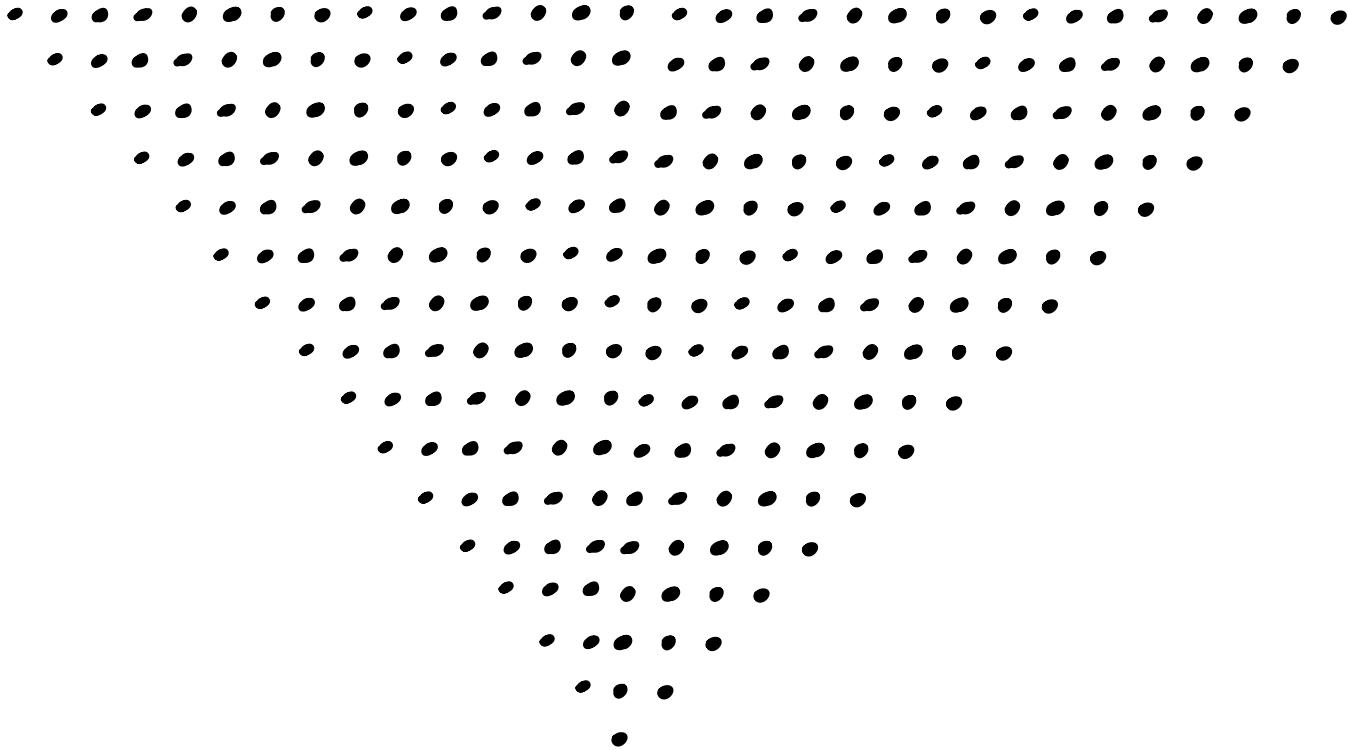
$$\begin{aligned}
 & \left( -x_{15} 2^{15} + \sum_{i=0}^{11} x_i 2^i \right) \left( -y_{10} 2^{10} + \sum_{j=0}^{9} y_j 2^j \right) \\
 = & x_{15} y_{10} 2^{25} + \sum_{i=0}^{14} \sum_{j=0}^{10} x_i y_{10-i} 2^{i+j} + \sum_{i=0}^{14} x_i y_{10+i} 2^{i+11} + \sum_{i=0}^{10} x_{15-i} y_{10-i} 2^{i+15} + (2^{15} + 2^{10}) + (2^{15+11})
 \end{aligned}$$

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↓

Convert MA to  
FA with  $c_{in}=1$

Prob 2)





$$d_6 = 13$$

13

