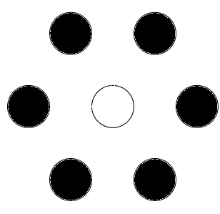
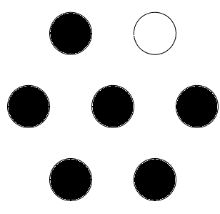
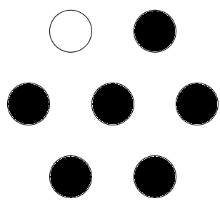
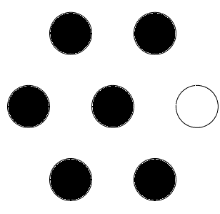
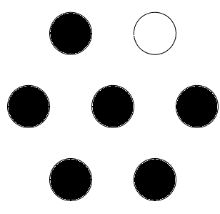
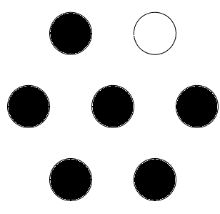
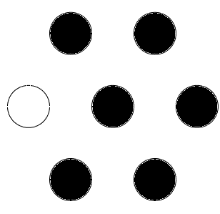
Mikko Karkkainen 2/3/2017

11740378

Homework 1

**1.**



7 configurations

Configuration arrangement equation:

|  |  |
| --- | --- |
|  | (1) |

Using no. of white spheres as and number of black spheres as :

|  |  |
| --- | --- |
|  | (2) |

**2.**

Chemical potential equation for a regular solution:

|  |  |
| --- | --- |
|  | (3) |

Starting point for derivation:

|  |  |
| --- | --- |
|  | (4) |

|  |  |
| --- | --- |
|  | (5) |

Assumption: Binary solution:

|  |  |
| --- | --- |
|  | (6) |

Substituting eq. 6 to eq. 5:

|  |  |
| --- | --- |
|  | (7) |

|  |  |
| --- | --- |
|  | (8) |