**Problem 1**

**Problem 2**

**Problem 3**

**Part 1**

**Part 2**

**Problem 4**

**Part 1**

**Part 2**

**Problem 5**

|  |  |
| --- | --- |
|  |  |
| 0 | <0,0> |
| 1 | <1,0> |
| 2 | <1,0> |
| 3 | <1,-1> |
| 4 | <0,-2> |
| 5 | <0,-2> |