1. 2.7

   1) (1)

   $$O(n)$$

   For the for loop, each statement will run one time and the for loop will run n times.

   2) (5)

   $$O(n^5)$$

   For the outside loop, it will run n times. For the medium loop, it will run $n \cdot n$ times. And for the outside loop, it will run $n \cdot n$ times. So, it is $n \cdot n \cdot n \cdot n \cdot n = n^5$

2. 2.14

   1) (a)

poly	i
4	4
20	3
60	2
181	1
545	0

   2) (c)

   $$O(n)$$

   For each for loop statement, it will run once, and the limit of for loop is n times. The degree of polynomial is n.

3. 2.26

   1) (c) $O(n + n^2)$

2) (e)

```
public static int[] findCandidates(int[] a) {
        if (a.length <= 2)
                return a;

        ArrayList<Integer> b = new ArrayList<Integer>();
        for (int i = 0; i < a.length - 1; i += 2)
                if (a[i] == a[i + 1])
                        b.add(a[i]);

        if (a.length % 2 == 1)
                b.add(a[a.length - 1]);

        int[] temp = new int[b.size()];
        for (int i = 0; i < b.size(); i++)
                temp[i] = b.get(i);

        return findCandidates(temp);
}
```

4. 2.27

```
int n = a.length;
int i = 0, j = n - 1;
int var = a[i][j];

while (true) {
        if (var == val)
                return true;
        else if (var < val && i < n - 1)
                var = a[++i][j];
        else if (var > val && j > 0)
                var = a[i][--j];
        else
                return false;
}
```