P292

13：

1. : 0+0+0+0+0+1+1+1+1+1 = 5 is an odd. True.
2. : 1+0+1+0+1+0+1+0+1+0 = 5 is an odd. True.
3. : 1+1+1+1+1+1+0+0+0+0 = 6 is an even. True.
4. : 1+0+1+1+1+1+0+1+1+1 = 8 is an even. ERROR.

P304-305

11:

First find the inverse of 15 with respect to module 26.

26=15+11, 15=11+4, 11=4\*2+3, 4=3\*1+1;

1=4-3\*1=4-(11-4\*2)=(15-11)\*3-11=15\*3-11\*4=15\*3-(26-15)\*4=15\*7-4\*26.

So it is 7; If p = 1, then c = 2, suppose that p = 7c+k mod26

So k = 13. Hence p = 7c+13 mod26

27:

0667^937 mod 2537 = 1909; 1947^937 mod 2537 = 1222;

0671^937 mod 2537 = 0518; So it is sliver.

P330

13:

Basis step: when n = 1, 1^2 = 1 = (-1)^0 \* 1^2;

Inductive step: if n = k is true, when n = k + 1, 1^2 – 2^2 + 3^2 −···+(−1)^k−1 \* k^2 + (−1)^k \* (k + 1)^2 = (−1)^k−1 \* k \* (k + 1)/2 + (−1)^k \* (k + 1)^2 = (−1)^k \* (k+1) \* [−k/2+(k+1)] = (−1)^k \* (k+1) \* [(k/2)+1]= (−1)^k \* (k+1) \* (k+2)/2.

27:

Basis step: when n = 1, 1 > 2√2−1;

Inductive step: if n = k is true, when n = k + 1, we just need to prove 1/√k+1 > 2√(k+2)−1 - 2√(k+1)−1, it is equal to ( 2√(k+2)−1 + 2√(k+1)−1)/√k+1 > (2√(k+2)−1 - 2√(k+1)−1)( 2√(k+2)−1 + 2√(k+1)−1), it is equal to 1 + √(k+2)/ √(k+1) > 2.