S T Q Q S S D

__/__/__

1) a) $(1999)_{10}$ /2

1 999 /2
1 499 /2
1 249 /2
1 124 /2
0 62 /2
0 31 /2
1 15 /2
1 7 /2
1 3 /2
1 1

R: $(11111001111)_2$

$1024+512+256+128+64+8+4+2+1 = 1999$

b) $(1999)_{10}$ /3

1 666 /3
0 222 /3
0 74 /3
2 24 /3
0 8 /3
2 2

R: $(2202001)_3$

$1458+486+54+1 = 1999$

spiral

__/__/__

S T Q Q S S D

c) $(1999)_{10}$ 16

19 124 16

12 (7)

$c = (12)_{10}$

$f = (15)_{10}$

R.: 7 12 15 ⇝ $(7cf)_{16}$ //

$1 \cdot 7^2 + 12 \cdot 16 + 15 = 1999$

d) $(1999)_{10}$ 62

15 ~~35~~ (17) 32

$w = 32$

$f = 15$

R.: ~~1532 ⇝ wf~~

3215 ⇝ $(wf)_{62}$ //

$19 \cdot 64 + 15 \rightsquigarrow 1999$

2) $d^k + d^{k-1} + \dots + d^0 = \frac{(d^{k+1}) - 1}{d - 1}$ //

Exemplo: p/ $d = 2$ e $k = 4$ ⇝ $1 + 2 + 4 + 8 + 16 = \frac{32-1}{1}$

$31 = 31$ //

ou

$d = 3$ e $k = 3$ ⇝ $1 + 3 + 9 + 27 = \frac{81-1}{2}$ ⇝ $40 = 40$ //

pois $S + (d-2) \cdot S + 1 = d^k$

spiral

2867)

```
#include <stdio.h>
#include <math.h>

int main(void){

   int C,N,M,x;

   scanf("%d", &C);

   while(C>0){
      scanf("%d %d", &N,&M);
      x=log10(N)*M+1;
      printf("%d\n", x);
      C--;
   }
   return 0;
}
```