1) 100
    a. radix2 = 1100100
    b. radix3 = 10201
    c. radix4 = 1210
    d. radix5 = 400
    e. radix6 = 244
    f. radix7 = 202
    g. radix8 = 144
    h. hadix9 = 111
2) r^k
3) binary32 hex
    a. 9 = 41100000_h
    b. 5/32 = $3F200000_h$
4) Binary32 hex to decimal
    a. $42E48000_h$ = 114.25
    b. 00800000_h = $1.2*10^{-38}$
5) Add two binary32 hex numbers
    a. 3F000000
6) 80000005_h

1) 100 → 1100100

Radix 2

100 | 2
0 50 | 2
0 25 | 2
1 12 | 2
0 6 | 2
0 3 | 2
1 1 | 2
1 0

Radix 3 → 10201

100 | 3
1 33 | 3
0 11 | 3
2 3 | 3
0 1 | 3
1 0

Radix 4 → 1210

100 | 4
0 25 | 4
1 6 | 4
2 1

Radix 5 → 400

100 | 5
0 20 | 5
0 4 | 5
4 0

Radix 6 → 244

100 | 6
4 16 | 6
4 2 | 6
2 0

Radix 7

100 / 7
30 [2]
14 / 7
[0] 2 / 7
[2] 0

↳ [202]

Radix 8

100 / 8
20 [4]
12 / 8
[4] 1 / 8
[1] 0

↳ [144]

Radix 9

100 / 9
[1] 1 / 9
[1] 1 / 9
[1] 0

↳ [111]

---

(3)

A) 9 → 1.001×2^0

1.001×2^3

$127+3=130$

[41100000]

© 10000010 001000...

B) 5/32 = 0.15625

0.10100×2^0

1.0100×2^{-1}

0.15625 x 2 = 0
0.3125 x 2 = 0
0.625 x 2 = 1
0.25 x 2 = 0
.5 x 2 = 1

0 01111110 0100

[3F200000]

4a) 42E48000 → 0 10000101 11001000...

6 so 1.1100100^{1^6} $\frac{1}{2}+\frac{1}{4}+\frac{1}{32}+\frac{1}{256}$

1110010.01×2^0 $\frac{1}{4}$

114.25

4b) 00800000

0|00000001|0000...

1.0×2^{-126}

5)

0|01111101|110000...	0|01111011|0000
ex -2	1.0×2^{-4}
1.11×2^{-2}	11
111.0×2^{-4}	111
1000.0×2^{-4}	001
	1000

1.0×2^{-1} 127-1 = 126 so

0|01111110|0 **3F000000**