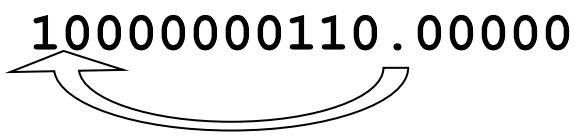
1030

Write as fixed point number

1024	512	256	128	64	32	16	8	4	2	1	1/2	1/4	1/8	1/16	1/32
1	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0

Normalise



Shift the binary point 10 places to the left.

Calculate the exponent

```
00001010        10 in two's comp
01111111        127 in two's comp
========
10001001        10 in bias form
```

Number in IEEE 745 FP format

0 10001001 00000001100000000000000

1.5

1024	512	256	128	64	32	16	8	4	2	1	1/2	1/4	1/8	1/16	1/32
0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0

Normalise

1.1

Don't need to shift the binary point.

Calculate the exponent

```
00000000        0 in two's comp
01111111        127 in two's comp
========
01111111        0 in bias form
```

Number in IEEE 745 FP format

0 01111111 10000000000000000000000

-7.75

1024	512	256	128	64	32	16	8	4	2	1	1/2	1/4	1/8	1/16	1/32
0	0	0	0	0	0	0	0	1	1	1	1	1	0	0	0

Normalise

Shift the binary point 2 places to the left.

Calculate the exponent

```
00000010        2 in two's comp
01111111        127 in two's comp
========
10000001        10 in bias form
```

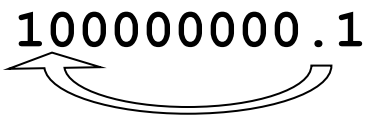
Number in IEEE 745 FP format

1 10000001 11110000000000000000000

256.5

1024	512	256	128	64	32	16	8	4	2	1	1/2	1/4	1/8	1/16	1/32
0	0	1	0	0	0	0	0	0	0	0	1	0	0	0	0

Normalise



Shift the binary point 8 places to the left.

Calculate the exponent

```
00001000        8 in two's comp
01111111        127 in two's comp
========
10000111        8 in bias form
```

Number in IEEE 745 FP format

0 10000111 00000000100000000000000

0.0625

1024	512	256	128	64	32	16	8	4	2	1	1/2	1/4	1/8	1/16	1/32
0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Normalise

0.000100

Shift the binary point 4 places to the right.

Calculate the exponent

```
11111100        -4 in two's comp
01111111        127 in two's comp
========
01111011        -4 in bias form
```

Number in IEEE 745 FP format

0 01111011 00000000000000000000000

0.375

1024	512	256	128	64	32	16	8	4	2	1	1/2	1/4	1/8	1/16	1/32
0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0

Normalise

0.01100

Shift the binary point 2 places to the right.

Calculate the exponent

```
11111110        -2 in two's comp
01111111        127 in two's comp
========
01111101        -2 in bias form
```

Number in IEEE 745 FP format

0 01111101 10000000000000000000000