What is the minimum number of bits (binary digits) to represent 32?

A. 3
B. 4
C. 5
D. 6
E. 7

Answer: D
32 is 2^5, that is a 1 at index 5. Index 5 is the 6th bit. 5 bits can represent the 32 numbers from 0-31 inclusive, but not 32.

How many distinct numbers can be represented in 5 bits (binary digits) ?

A. 15
B. 16
C. 31
D. 32
E. 63

Answer: D
Since 2^5 equals 32, 5 bits can represent 32 distinct numbers.

What is the result of adding 01101 and 00100?

A. 01001
B. 01101
C. 10000
D. 10001
E. 10101

Answer: D
Equivalent to 13+4 = 17

11
01101
00100

10001

```
0.125 + 0.25 <= 0.375
```

Will the above expression evaluate to True (as expected)?

A. Yes
B. Possibly, I would have to try it out
C. No

Answer: A
Since those values are uniquely representable as floating points numbers, i.e. as 1.0*2^-3, 1.0*2^-2 and 1.5*2^-2, there is no error in the computation and so we will know the expression will evaluate to True.