Evaluate the following unsigned conversions.

1. \((350)_{\text{dec}} = (?)_{\text{bin}}\)
   - a) 1101011110
   - b) 111010000
   - c) 001101010000
   - d) 0101011110

2. \((100010111001011)_{\text{bin}} = (?)_{\text{hex}}\)
   - a) 45CB
   - b) 8B96
   - c) BC54
   - d) 69B8

3. \((0101)_{\text{hex}} = (?)_{\text{dec}}\)
   - a) 005
   - b) 65
   - c) 257
   - d) 145

4. \((11111010110100)_{\text{bin}} = (?)_{\text{oct}}\)
   - a) FAC
   - b) 4012
   - c) 0FAC
   - d) 7654

Evaluate binary operations in 8 bit 2s complement arithmetic.

5. \(00011111 + 00011111\)
   - a) 00111111
   - b) 01111100
   - c) 00111110
   - d) 00100000

6. \(00001001 \times 00001100\)
   - a) 00110110
   - b) 00001111
   - c) 10010110
   - d) 01110111

7. \(01110100 / 00001000\)
   - a) 01111100
   - b) 10001110
   - c) 10010110
   - d) 00001110

8. \(11001001 - 10000100\)
   - a) 101000101
   - b) 01000101
   - c) 10000101
   - d) 10110011

Determine what is printed on the screen when the given code is executed.

9. `int main(void){ printf("%x%3d\n",257,16384); return 0; }`
   - a) 257163
   - b) 10116384
   - c) 25716384
   - d) 101316384

10. `int main(void){
      int f; double e=2.7, d;
      d=f=(int)e;
      printf("%3.1f %2d",d,f);
      return 0; }
    `a) 2.720
     b) 2.722
     c) 2.0 2
     d) 3.11 22

11. `void foo(int x) { printf("%x%ld","x++"); }
    `int main(void) { int x=1;
        printf("%d",x); foo(++x);
        printf("%x%d",x+1);
        return 0; }
      `a) 1x2x3
       b) 1x12x4
       c) 1x3x5
       d) 1x12x5

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Books, notes, calculators and like are not allowed. 75 minutes.
12. int main(void){
    int A=1, B=1;
    A+= B+++-++B;
    printf("%d %d", A, B);
    return 0; }

13. int main(void){
    int x=12, y=1;
    printf("%X", ((x+1)|(3&63))<<1);
    return 0; }

14. int main(void){
    int a=11, b=11;
    if(b/2.0==b>>1) a+=1;
    else if(a++>++b) b++;
    else if(a>>2>b>>2) a=2;
    else a+=b; printf("%d", a);
    printf("%d", b);
    return 0; }

15. int main(void){
    int a=4, b=4;
    b=(a+=1)<<=b?b|3:(b<<=2);
    printf("%d%d", a, b);
    return 0; }

16. The program prints out “zero 2” on the screen. What should be in the line marked with ...
   ...?
   void foo(int a, int b){
       ...else printf("%d
",a/b); }
   int main(void){
       int x=4, y=4;
       y&=11; foo(x,y);
       y|=8; foo(y,x);
       return 0; }

Assume that all programs has include <stdio.h> line.