**Exercise: Number System**

1. **Convert decimal to binary, octal, hexadecimal**
2. (13)10 = ( ? )2 = ( ? )8 = ( ? )16
3. (255)10 = ( ? )2 = ( ? )8 = ( ? )16
4. **Conversion between binary, octal and hexadecimal**
5. (777)8 = ( ? )2 = ( ? )16
6. (252)8 = ( ? )2 = ( ? )16
7. (ABCD)16 = ( ? )2 = ( ? )8
8. **Convert binary, octal, hexadecimal to decimal**
9. (101)2 = ( ? )16 = ( ? )8 = ( ? )10
10. (1110)2 = ( ? )16 = ( ? )8 = ( ? )10
11. (1000 0001)2 = ( ? )16 = ( ? )8 = ( ? )10
12. (1001 1001)2 = ( ? )16 = ( ? )8 = ( ? )10
13. (1.11)2 = ( ? )10
14. (14.6)8 = ( ? )10
15. **Conversion from** **Decimal**

**Note: If the fractional part exceeds 4 digits, only 4 digits are reserved.**

1. (0.5)10 = ( ? )2 = ( ? )8 = ( ? )16
2. (0.77)10 = ( ? ) 2= ( ? )8 = ( ? )16
3. (0.35)10 = ( ? ) 2= ( ? )8 = ( ? )16
4. (0.88)10 = ( ? )2 = ( ? )8 = ( ? ) 16
5. **Arithmetic**
6. (1234)8 + (7654)8 = ( ? )8
7. (A3)16 \* (AC)16 = ( ? )16
8. **Two’s Complement**
9. ( ? ) is the bit pattern in 8-bit 2’s complement representation for decimal number -33.
10. The smallest negative integer for n-bit 2’s complement representation is ( ? ).
11. Decimal ( ? ) is equivalent to 8-bit 2’s complement number 10000101.
12. **Floating-Point Numbers**
13. ( ? ) is the floating-point representation of decimal 0.15625.
14. ( ? ) is the floating-point representation for decimal -127.25.
15. 1 10000010 11010000000000000000000 is the floating-point representation of decimal ( ? ).
16. 1 10000010 11100100000000000000000 is the floating-point representation of decimal ( ? ).
17. 0 10000110 01010100100000000000000 is the floating-point representation of decimal ( ? ).