CMPS 2240 Quiz 1 Name_____

Each question is worth **1** points unless noted.
Multiple correct answers are possible

1. What is the sum of the three binary numbers?

```
  10110110
  00111001
  11100011
  ________
```

000111010010

2. Show your answer from question #1 above, in decimal and hexadecimal format.

Decimal: 466
Hexadecimal: 1D2

3. What does the following MIPS instruction do?

```
li $v0, 10
```

A. stores the value 10in a variable named li
B. creates a variable named v0
C. stores a value into a register
D. reads a value from a register

4. What is the largest value that can be stored in one byte of memory? **255**

How many different values can be stored in one byte of memory?

256

5. Here is a signed binary number in 2's compliment format: 1111000
The processor will see the number as a negative number.
What is the decimal value of this number?
hint: doing the 2's compliment twice returns a number to its original value

Your answer must be a negative value. That was given.
00001000 Decimal -8

6. What does the linker do?

A. Joins assembly language source files together
B. Resolves object file external references.
C. Creates an executable file.
D. Compiles and assembles executable file.
E. Executes the program

7. Each processor type has its own unique instruction set architecture (ISA). Because of this,

A. A complex ISA causes the processor to run more slowly.
B. Assembly language programs are not portable.
C. The ISA committee meets once a year.
D. Assembly language programs are portable.

8. MIPS branch and jump commands both change a program's control flow. Choose all true statements below.

A. a jump is a conditional branch
B. a branch is a conditional jump
C. jumps are macro commands
D. jumps go forward, and branches go forward or backward

9. Show the **bit pattern** of how the following number would be stored in memory if your system stored values in little-endian format.

0x1A07

0x07	0x1A
00000111	00011010

10. When you run your program, a segmented area of memory is created for use by your program. Which of the following segments of your running program will reside in a lowest area of memory (have the smallest memory address)?

A. the registers
B. the .text segment
C. the .data segment
D. the heap
E. the stack segment