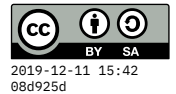# Quiz 1

16 September 2019

Time limit is 20 minutes. You may use a calculator, but no book, notes, or communication.

1. Convert the following numbers from the specified bases *into* base ten.

    - 263_7 = _____ $_{10}$
    - 263_8 = _____ $_{10}$

2. Convert the base ten number 193 into base nine.

    - 193_{10} = _____ $_9$

3. Convert the following base ten (decimal) numbers into binary, using as many bits as needed.

    - 14 = _____
    - 41 = _____
    - 63 = _____

4. Convert the following **unsigned** binary numbers into base ten.

    - 1101 = _____
    - 111 = _____
    - 11001 = _____

(over)

5. Convert the following 4-bit **signed two's complement** binary numbers into base ten. **Note:** "signed" means that answers **might be negative.**

   - `1011` = _____

   - `0101` = _____

   - `1111` = _____

   - `1001` = _____

6. Add the following **4-bit fixed-size** binary numbers. **Also** convert each number to base ten. **Note:** "fixed-size" means that your answers **must fit in 4 bits.**

```
  1 0 1 1
+ 1 1 1 0
─────────
```