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(Voor Nederlands, Z.O.Z.)

All questions count equally.

1. What is the difference between interpretation and translation?
2. A computer has a 10-stage pipeline. The clock speed is 500 MHz  
In every clock cycle, every instruction shifts 1 stage further in the pipeline. A new model has 20 stages and runs at 1 GHz. How much faster is the new model than the old model?
3. A Pentium computer system often has four (or more) buses. Draw such a system with four buses. Give the name and function of each bus. Buses inside the CPU chip itself do not count.
4. A multiplexer chip has 8 pins, D0-D7, for data input, 3 pins, ABC, for control signals, and 1 pin, F, for output. Show how this chip has to be wired to compute the following function:

ABC	F	ABC	F
000	0	100	1
001	1	101	0
010	1	110	0
011	0	111	1
5. Attached is a drawing of a 4 x 3 memory. Is het circuit complete?  
If not, make the necessary changes and turn it in.

