Exercise 1.3

Consider three different processors P1, P2, and P3 executing the same instruction set with the clock rates and CPIs given in the following table.

Processor	Clock rate	CPI
P1	2 GHz	1.5
P2	1.5 GHz	1.0
P3	3 GHz	2.5

1.3.1 [5] <1.4> Which processor has the highest performance?

1.3.2 [5] <1.4> If the processors each execute a program in 10 seconds, find the number of cycles and the number of instructions.

1.3.3 [10] <1.4> We are trying to reduce the time by 30% but this leads to an increase of 20% in the CPI. What clock rate should we have to get this time reduction?