

- Machine A runs at 2.2 GHz and completes a certain program in 10s. Machine B runs at 3.3 GHz and completes the same program in 7s. How many more clock cycles does B need relative to A for this program?

- What is the clock rate for a machine running a job that has a CPI of 1.4, 1400 instructions, and finishes in 600ns?

- A certain computer uses 3 instruction classes: A, B, and C. The CPI for C = 4. To determine the CPI of classes A and B, two code sequences were run, 1 and 2. Code sequence 1 has an IC of 1 for class A, 2 for class B, and 3 for class C, and runs in 16 clock cycles. Code sequence 2 has an IC of 2 for A, 1 for B, and 2 for C, and runs in 13 clock cycles. What are the CPIs for A and B?

- Computer A runs at 3 GHz with a CPI of 4. Computer B runs at 3.5 GHz with a CPI of 5 (note tradeoff again). A particular job needs 1M clock cycles for computer A, and 0.9M for computer B. Compute the MIPS for each machine. Which one completes the job faster?

- A floating point process has 3000 subtractions, 5000 multiplications, and 3500 divisions, and completes in 52 ns. What is its normalized FLOPS rating based on the table below?

Real FP Ops	Normalized FP Ops
add, sub	1
mult, compare	1
divide, sqrt	4
exp, sin, etc.	8

- Consider 2 programs (1 & 2), 2 machines (A & B) as shown below. Compute the arithmetic means (AM) and geometric means (GM). What do these signify?

	time on A	time on B	norm. to A		norm. to B	
			A	B	A	B
prog 1	1	10	1	10	0.1	1
prog 2	1000	100	1	.1	10	1
AM						
GM						