Question-1:

Read-after-write(RAW) : True dependence
Write-after-read(WAR) : anti dependence

Instruction 1 - 2 has both RAW and WAR
Instruction 2 - 3 has RAW dependency

So x = 2 and y = 1
10y + x = 12
Final solution is 12

Question-2:

Total Instructions n = 100

For P1:
Stages k = 5
Maximum stage time tp = 4ns
Total time = (k + n -1) * tp
= 416ns
For P2:
Stages k = 6
Maximum stage time tp = 3ns
Total time = (k + n - 1) * tp
= 315ns

Total time that can be saved using design P2 over design P1 is 101ns

Question-3:

Total instructions = 200 and 30% branch

Branch outcome is known in 3rd stage, so Instruction fetch of next instruction begins in next cycle. But usually it should happen when the current instruction is in the 2nd stage.

So number of stall cycles is 2

Total branch instructions = 60

Total stalls cycles due to control hazard = 120