Amdahl’s Law Exercises

1. A program takes 10 seconds to run on a single core. If the non-parallelisable part of the program takes up 60% of the program (6 seconds), the parallelisable part takes up 40% of the program (4 seconds) how long will the program take to run on 4 cores?
2. A program takes 30 seconds to run on a single core. If the non-parallelisable part of the program takes up 50% of the program, how long will the program take to run on 5 cores?
3. A program takes 1 second to run on a single core. If the parallelisable part of the program takes up 35% of the program, how long will the program take to run on 3 cores?
4. If a program takes 0.5 seconds to run on a single core. If the parallelisable part of the program takes up 50% of the program, how long will the program take to run on 5 cores?
5. If a program runs in 20 seconds on 4 cores and the parallelisable section of the program takes up 40% of the program, how long will it run on 2 cores?