Problems of Metrics

1. A 25% of a program can not be parallelized and the rest can be distributed between different number of processors. Which is the maximum possible gain with the parallelization? Which is the minimum number of processors needed to achieve a gain over 2?

2. A 25% of a program can not be parallelized and the rest can be distributed between different number of processors. Which is the maximum possible gain with the parallelization? Which is the minimum number of processors needed to achieve a gain over 2?

3. The following graph represents a task dependence graph of an application. The graph shows the percentage of scalar time spent by each task. Assume a scalar time of 60s and a negligible communication time. Obtain the parallel execution time and the speedup for a computer with 4 and 2 processors.