Fleet Size Problems

1) How many vehicles are needed to maintain a 20 minute headway on a route 10 miles long with an average speed of 12 mph?

2) How long should the route be if only four vehicles are available for the route?

3) What would the average speed have to be to maintain a 10 mile route with 4 vehicles at 20 minute headway?

4) For No. 3, what level of demand peak can be accommodated with 50 passenger buses at a 1.0 load factor?

5) How many buses would be needed to accommodate a peak flow of 250 persons (50 passenger buses, 1.0 load factor, speed = 15 mph, 10 mile route)?

6) For No. 5, what is the resulting average headway?

7) For No. 5, what load factor would allow the cutting of one bus?