3a)i) Large populations will be found around the coast of the Netherlands as this will provide a means for importing and exporting products to and from the country. The largest populations are ~~predominantly~~ predominantly found in the capital cities of the European countries, such as London, Paris, Madrid and Rome, this is because these areas are ~~the main~~ likely to have the best

facilities and resources of the whole country There may also be a large population around Luxembourg because it had a Net migration Migrants per 1000 population (2012) of 8 which is higher than for example Bulgaria with -3 and only has a few areas within the country that are densly populated.
Energy production is also very high in Denmark and around the Netherlands and Luxembourg with (Philips 2014) Over 4 tonnes of oil equivalent per capita in 2009. This would cause a large population here as many industries and businesses will be set up here. This high energy production may also be responsible for Luxembourgs high net migration as it would attract people to move there.
Around Germany and Poland there is also Over 80% of the adult population which have completed upper secondary education and so many people will choose to live here for the good education. The high education rates also means that there are likely to be many successful businesses in these countries, again making more people want to move here and live.

ii) They give a very good visual representation and are very good for comparing areas. These symbols also make it very easy to identify patterns at a glance, as it is easy to see areas of high and low value. However it is difficult to see the values of individual cities is areas where there is a lot of crowding of cities and consequently symbols, for example around Southern England and the Netherlands.

b)i) ~~There is no relationship between GDP of country and its net migration~~
There is no correlation between the GDP of a country and its net migration.

ii) The Spearman's rank correlation value is 0.428 and so there is a slight positive correlation between GDP of a country and its net migration.
The Spearman's rank correlation value of 0.428 is lower than the critical value of 0.56 for 95%

significance level and also lower than 0·75 for 99% significance level, therefore there is a greater than 5% chance that the result occured due to chance. We can therefore accept the null hypothesis that there is ~~no~~ correlation between GDP of a country and its net migration.

(iii) Using Spearman's Rank Correlation Coefficient was very suitable for measuring the relationship as you end up with a ~~trend~~ number which helps you to compare the data against other data sets* With the number you can also tell if there is a correlation or not and if the correlation is positive or negative. From the number you can also tell how strong or weak the correlation is. ~~and~~ Also, because you end up with a number, you can test it against significance tables, & and ~~if the number~~ see if the results gathered are significant. Furthermore, because Spearman's ranks the data it doesn't allow ~~easily~~ outliers to affect the results and so it is good for using when you have skewed / non-parametric data, which is the case here as there are a wide range of GDP values ranging from $7,198 to $110,697 (highest to lowest)

* for example this set out data could be compared against a different continents results for the same investigation.

Spearman's is also good for using when there is ordinal or ranked data, and the Net migration and GDP values can be ranked. Spearman's is also relatively quick and easy to do which means there is less chance for human error. The large range of GDP and net migration data can also be represented by a single number which is much better for processing.

c) One of the reasons that ~~Gross~~ Luxembourg's population may have increased from 2.0 to 2.5% is because it has a reasonably high net migration of 8 and so there will be more people coming in to the country.
Norway's population may have risen from 0.5 to 1.0% because it has a high GDP from industries of 40.1% in 2010 (Phillips 47th Edition), this will have attracted more people to live in Norway due to the fact that there must be several industries present for such a large GDP from industries and so people will be ~~attr~~ come looking for jobs in these industries.
The ~~pp~~ may have been a drop in Germany from 0.0 to −0.5% due to the fact that in 2020 Germany only had 8 births per

thousand people, compared to a death rate of 11 deaths per thousand people. Due to the death rate being greater than the birth rate this may have caused the population decline. However in Bulgaria the birth rate per thousand people is 9 and the death rate is 14 and so this may have caused the rise in population in Bulgaria from -0.5 to -1.0. The population may have also dropped in Bulgaria from -0.5 to -1.0% due to it having a low GNI of $45,961, and so people may chose to migrate to another country with a higher GNI in the hope of getting better paid jobs, for example Italy with a GNI of $2,114,481. This could also be a reason for the increase in population from 0.0 to 0.5% in Italy. Spain and Italy's population may also have increased due to a net migration of 5 migrants per 1000 population (2012).