a. There are:

10% * 120 = 12 males younger than 20 years old

20% * 80 = 16 females younger than 20 years old.

In total, there are 12 + 16 = 28 people younger than 20 years old.

b.

$$50\% * \frac{120}{200} + 30\% * \frac{80}{200} = 0.42 = 42\%$$

42% of the individuals are 50 years old or older.

c.

$$30\% * 120 + 50\% * 120 = 80\% * 120 = 96$$

96 males are 30 years old or older

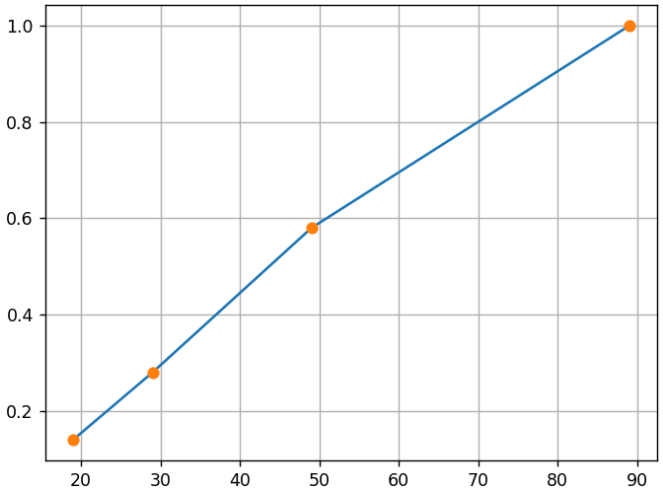
d. Table of the total sample:

Age (years)	Middle point	Rel. freq. (%)
0-19	9,5	14
20-29	24,5	14
30-49	39,5	30
50-89	69,5	42
Total		100

Where the relative frequency of each class is calculated in this way:

$$rel.freq. = Male\% * \frac{120}{200} + Female\% * \frac{80}{200}$$

Graph of the cumulative frequency:



The 50% is between 30 and 49, so the median is in this class. We can assume that the data are evenly distributed and so approximate the median with linear interpolation:

$$Median = 30 + 19 * \left(\frac{50 - 28}{30}\right) \approx 43.93$$

The median is approximately 43.93.