**Linear Growth:**

 Suppose that the amount that your town’s population grows each year is fixed (or constant).

 Choose the amount of population growth each year = 500

 (Hint: Choose a whole number for your growth rate, rather than a percent.)

 a) Fill in the following chart:

|  |  |
| --- | --- |
| Year (*t*) | Population (*P*) |
| *t* = 0(2010) | 7000 |
| *t* = 1(2011) |  |
| *t* = 2(2012) |  |
| *t* = 3(2013) |  |
| *t* = 6(2016) |  |

 b) Find a linear equation in the form *P* = *mt* + *b* (*y* = *mx* + *b*), which gives the population, *P*, *t* years from 2010.

 Answer:

 Show your work here:

 c) Use your equation in part b to approximate the population in the year 2020.

 Answer:

 Show your work here:

 d) Use your equation in part b to approximate how many years it will take the population to reach 12,000. Round to the nearest whole year when necessary.

 Answer:

 Show your work here: