**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: