

1. One thousand two hundred deer are living on an island that is eight hundred square kilometers in size. What is the population density of the deer per square kilometer?

$$\frac{\text{Total pop}}{\text{Total area}} = \frac{1200 \text{ deer}}{800 \text{ km}^2} = 1.5 \text{ deer/km}^2$$

2. A city with 52,000 people has 140 births. What is the birth rate (as a percentage and per thousand)?

$$\frac{\# \text{ births}}{\# \text{ people}} = \frac{140 \text{ births}}{52000 \text{ people}} = .0027 \times 100 = .27\%$$

$$\times 1000 = 2.7 \text{ per 1000}$$

3. Another city experiences 12 deaths for each thousand people. What is the death rate (as a percentage and per thousand)?

$$1.2\% \text{ OR } 12/1000$$

4. A village of 23,100 people has 2,373 births and 473 deaths. What is the growth rate for this village?

$$\text{Growth rate } r = \frac{\text{birth} - \text{death}}{\text{initial pop}} \times 100\% = \frac{2373 \text{ birth} - 473 \text{ death}}{23100 \text{ people}} \times 100\% = 8.2\%$$

8.23%

5. A small country of 744,000 people has 44,000 immigrants and 12,000 emigrants. They also experience 15,000 deaths and 35,000 births. What is the growth rate of this small country?

$$\frac{(B+I) - (D+E)}{\text{initial pop}} \times 100 = \frac{(35,000 + 44,000) - (15,000 + 12,000)}{744,000} \times 100 = 6.9\%$$

7.0%

6. How many years will it take for this country to double its population?

$$\frac{70}{r} = 10 \text{ yrs}$$

7. If a country were doubling its population every 35 years, what would its growth rate be?

$$\frac{70}{r} = 35 \quad 2\%$$

8. At the end of 2002, there were 1,280 million people living in China. China is the third largest country in the world with an area of 9.6 million square kilometers. What is the population density of China?

$$\frac{1280 \text{ million people}}{9.6 \text{ million km}^2} = 133.3 \text{ people/km}^2$$

9. China has 130.00 million hectares of land under cultivation. What is the average amount of cultivated land in sq km that supports each person? (100 hectares = 1 sq km = 247 acres)

$$\frac{130.00 \text{ million hectares}}{100 \text{ hectares}} \left| \frac{1 \text{ km}^2}{100 \text{ hectares}} \right. = \frac{1300000 \text{ km}^2}{1280 \text{ million people}} = 0.00102 \text{ km}^2/\text{person}$$