Interval Worksheet for the Poisson Distribution

Approximate your answers to the nearest hundredths

Births

In a recent year, there are 450 births. What is the mean number of births in a:

1. Month (30 days)?
2. Week (7 days)?
3. Day?

Murders

In a recent year, there were 275 murders in a particular City. What is the mean number of murders in a:

4. Month (30 days)?
5. 10-day interval?
6. Week (7 days)?
7. Day?

Radioactive Decay

In a 365-day interval, there were 135,000 radioactive atoms that decayed form element xyz. What is the mean number of radioactive elements that decayed in a:

8. Month (30 days)?
9. Week (7 days)?
10. 15-day interval?
11. Day?

Car Fatalities

In a recent survey, there were 12,000 car fatalities per 80,000 miles traveled. In the next:

12. 100,000 miles traveled, what is the mean number of fatalities?
13. 250,000 miles traveled, what is the mean number of fatalities?
14. 1,000,00 miles traveled, what is the mean number of fatalities?

Checks

In a recent decade, an individual wrote 42,000 checks. What is the mean number of checks in the next:

15. Century?
16. Year?

Earthquakes

There are 545 Earthquakes above 5.0 in a decade. What is the mean number of earthquakes in:

17. The next year?
18. The next century?

Answers

1. 36.99 births per month
2. 8.63 births per week
3. 1.23 births per day
4. 22.60 murders per month
5. 7.53 murders per 10-days
6. 5.27 murders per week
7. 0.75 murders per day
8. 11,095.89 radioactive atoms decayed per month
9. 2,589.04 radioactive atoms decayed per week
10. 5,547.95 radioactive atoms decayed per 15-days
11. 369.86 radioactive atoms decayed per day
12. 15,000 car fatalities per 100,000 miles traveled
13. 37,500 car fatalities per 250,000 miles traveled
14. 150,000 car fatalities per 1,000,000 miles traveled
15. 420,000 checks per century
16. 4,200 checks per year
17. 54.5 earthquakes per year
18. 5,450 earthquakes per century