Post-Lesson Quiz

1.) If there are 400,500 bacteria in a petri dish, and the bacteria grow at a rate of 3 bacteria per minute, how many bacteria are in the petri dish after 2500 minutes?

2.) How much tax revenue does a country make in one year if each person pays $30,670 in taxes and there are 2,654,987,200 people in the country?

3.) If it takes six belt loops to make one pair of jeans, and a company produces 3470 pairs of jeans in one day, how many belt loops are used in 365 days (one year)?

4.) A landscaping company uses 1650 pallets per lawn. How many sod pallets are required to cover one neighborhood, equivalent to 24,500 lawns?

5.) If it is 789482 kilometers to the nearest city, and a person were traveling at an average speed of 342 kilometers per hour, how long will it take to reach the city?
Post-Lesson Quiz - ANSWER KEY

1.) If bacteria grow at a rate of 400,500 bacteria per minute, how many bacteria are in the petri dish after 2500 minutes?

\[
400,500 = 4.005 \times 10^5 \text{ bacteria per minute} \\
2500 = 2.5 \times 10^3 \text{ minutes} \\
(4.005 \times 10^5 \text{ bacteria per minute}) \times (2.5 \times 10^3 \text{ minutes}) = 1.00125 \times 10^9 \text{ bacteria}
\]

2.) How much tax revenue does a country make in one year if each person pays $30,670 in taxes and there are 2,654,987,200 people in the country?

\[
30,670 = 3.067 \times 10^4 \text{ dollars per person} \\
2,654,987,200 = 2.6549872 \times 10^9 \text{ people} \\
(3.067 \times 10^4 \text{ dollars per person}) \times (2.6549872 \times 10^9 \text{ people}) = 8.143 \times 10^{13} \text{ dollars}
\]

3.) If it takes six belt loops to make one pair of jeans, and a company produces 3470 pairs of jeans in one day, how many belt loops are used in 365 days (one year)?

\[
3470 = 3.47 \times 10^3 \text{ pairs of jeans} \\
(6 \text{ belt loops per pair}) \times (3.47 \times 10^3 \text{ pairs of jeans}) \times 365 \text{ days} = 7.5993 \times 10^6 \text{ belt loops}
\]

4.) A landscaping company uses 1650 pallets per lawn. How many sod pallets are required to cover one neighborhood, equivalent to 24,500 lawns?

\[
1650 = 1.65 \times 10^3 \text{ pallets per lawn} \\
24,500 = 2.45 \times 10^4 \text{ lawns} \\
(1.65 \times 10^3 \text{ pallets per lawn}) \times (2.45 \times 10^4 \text{ lawns}) = 4.0425 \times 10^7 \text{ pallets}
\]

5.) If it is 789482 kilometers to the nearest city, and a person were traveling at an average speed of 342 kilometers per hour, how long will it take to reach the city?

\[
789,482 = 7.89482 \times 10^5 \text{ kilometers} \\
342 = 3.42 \times 10^2 \text{ km/hr} \\
(7.89482 \times 10^5 \text{ kilometers}) / (3.42 \times 10^2 \text{ km/hr}) = 2.308 \times 10^3 \text{ hours}
\]