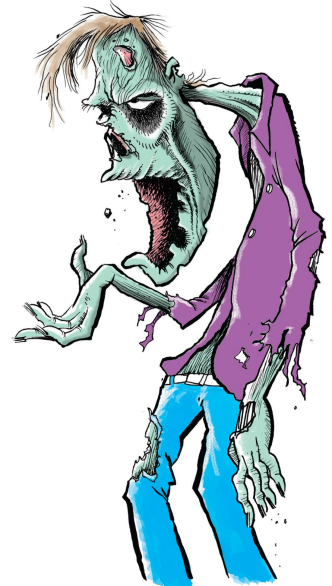


Mission: Anti-Zombie

Save the World from a Zombie Attack!!!



Attention: A sleeper cell of zombies has developed a plan to “turn” the entire human race into evil zombies. Infiltration into their cell has resulted in the following information, which we must work with to design our “anti-zombie” plan. Unfortunately, some of the information we have is inconsistent, so we must plan for several different scenarios. In order to do that, we will divide the responsibilities and come together for the final meeting of “Mission: Anti-Zombie”!! However, we do know that they plan to strike on June 1st!

Due to your extraordinary algebra skills, you are assigned as a leader to a group of citizen volunteers. It is your job to do the mathematical analysis, and then present your results to the citizen volunteers.

Although you may be assigned to the same unit, you must each produce a “report”. You may consult with each other in the process.

Scenario Assignments	Zombie rate of “turning” humans to zombies	Zombie Anti-dote Evaluation*
Jesse, Maci	Zombie cell: 16 zombies Rate: Each can turn 2 per day	Your antidote will not be ready until day 4. It has a 25% success rate.
Taylor, Shane	Zombie cell: 14 zombies Rate: Each can turn 3 per day	Your antidote will not be ready until day 5. It has a 35% success rate.
Mariah, Hayley	Zombie cell: 12 zombies Rate: Each can turn 4 per day	Your antidote will not be ready until day 6. It has a 40% success rate.
Jordynn, Sarah	Zombie cell: 10 zombies Rate: Each can turn 5 per day	Your antidote will not be ready until day 7. It has a 45% success rate.
Tom, Dino	Zombie cell: 8 zombies Rate: Each can turn 6 per day	Your antidote will not be ready until day 8. It has a 50% success rate.

*Once you begin the antidote, humans will no longer be able to be turned to zombies. However, you must work to bring back those that have been changed. **THE ORIGINAL ZOMBIES WILL ALWAYS STAY ZOMBIES.**

OVER

Your task:

- Create an equation for your "Human to Zombie" growth. Note: Growth rate... Start with 1 zombie and make 5 more... growth rate=6. Determine how long it will take the zombies to "turn" the world into a zombie land (if no antidote is used.) Use the recent population data: 7,115,210,620. Show the steps you used to solve.

Use your answer to $x(\text{time})$ to find the day & hour. (for example, if your answer is 32.3 days, that is 32 days from June 1st (July 2nd)..... and $0.3 \times 24 = 7.2$ hours (7 am)... $0.2 \times 60 = 12$ min. The World would become all zombies on July 2nd at 7:12 am!!

- Create an equation for your Zombie antidote.
 - a. 1st determine how many Zombies there will be on the day your antidote is ready. Use your first formula to calculate. This will be your "initial amount" (a) for the antidote function.
 - b. 2nd Create the equation with that initial amount (a) and your result (y) will be the original number of Zombies in your scenario.
 - c. 3rd Solve that equation for x (time) Show the steps you used to solve.
 - d. 4th Use your solution to find the date and time the humans are back. Remember to start at the antidote date.

Create a digital poster/presentation that shows:

Zombie Growth

- Your zombie growth function and the solution for (x).
- A graph of your growth. (Input your function into Geogebra).
- The exact date and time (from the June 1st attack) that the population of 7,115,210,620 will all be Zombies.

Zombie Decay

- Your zombie anti-dote decay function and the solution for (x)
- A graph of your decay. (Geogebra)
- The exact date and time that the ~~##~~ humans changed to Zombies will be returned to their human state (only the originals will remain).

An example on the next page:

This is just an example. Feel free to be creative!

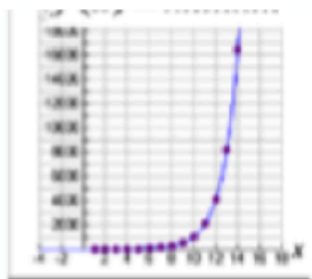
Zombie Take Over

My Scenario:

Started with 22 Zombies
and each could change 2
humans per day.

$$7,000,000,000 = 22(3)^x$$
$$x = 17.8$$

Zombies attack on June
1st. Humans will be gone on
June 17th at 7:12 pm



Zombie Antidote

My Scenario:

The antidote was ready on
day 15 and could cure 20%
cure rate.

$$22 = 315675954(0.80)^x$$
$$x = 73.9$$

Antidote starts on June 15th
and humans are cured on
August 27th at 9:36 pm

