DAY # 5:

Cause and Effect Prompt

At a recent conference at the University of Chicago , David Walsh of the National Institute on Media and the Family presented a paper titled " Video Game Violence and Public Policy."

The paper stated that "79% of American children now play computer or video games on a regular basis. Children between the ages of seven and 17 play for an average of eight hours a week."

"The growth of electronic games has not been without controversy, however. The subset of games that feature violence, gore, and antisocial behavior has raised concern among parents, educators, child advocates, medical professionals, and policy makers."

According to Walsh, research shows reason for concern:

> "Exposure to violent games increases physiological* arousal. . . .Heart rate . . . and . . . blood pressure all increase when playing violent games. . . . These are the same types of physiological reactions bodies have when engaged in a fight."
>
> "Exposure to violent games increases aggressive emotions." In one study, "students who were more 'addicted' to video games were significantly more likely to be in a bad mood before, during, and after play than were non-addicted students."
>
> "In a study of 8th and 9th graders, students who played more violent video games were also more likely to see the world as a hostile place, to get into frequent arguments with teachers, and to be involved in physical fights." *physiological: relating to the body's normal functions and processes.

Using the information presented in the paper, experiences from your own life, and/or other information you have read, write an article for your school newspaper about the negative effects of playing violent video games.

> As you write your article, remember to:
> • Focus on the negative effects of children playing violent video games.
> • Consider the purpose, audience and context of your article.
> • Organize your ideas and details effectively.
> • Include specific details that clearly develop your article.

• Use standard grammar, spel

Algebra 1 Builder # 49

Name:_____

Parallel Perpendicular Lines

Write an equation of the line that passes through the given point and is **parallel** to the given line. (Use POINT SLOPE)

(1,7) , -6x + y = -1

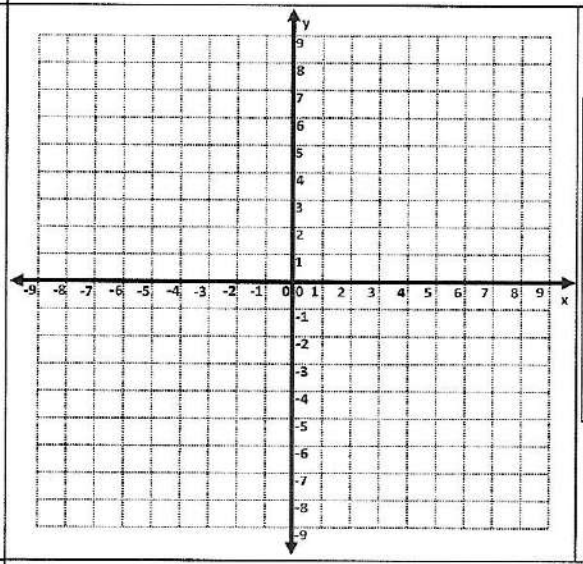
(2, 2) , 3y = x – 12

Write an equation of the line that passes through the given point and is **perpendicular** to the given line.

(1, 7) , -6x + y = -1

(18, 2) , 3y = x – 12

Exponential Functions



Evaluate the exponential function. Solve the equation for y. Make a table, plot the points, graph the function. $y = (1/2)^x$ Use {-2, -1, 0, 1, 2} for the domain.

x	y

Is this exponential GROWTH or DECAY?

x-intercept_____ y-intercept_____ asymptote_____

Inequalities

Solve the inequality. Then graph its solution.

$-2 < g \leq 5$ ⟷

$-1 < g \leq 3$ ⟷

Word Problems

Write an equation that has a slope of ¾ and a y-intercept of 7.

y = mx + b

Show your work!

Arithmetic Sequence

Write a rule for the n^{th} term, where a_1 is the first term and d = common difference. Then find a_n when n = 10 -10, 0, 10, 20, 30 ...n^{th}

$a_n = a_1 + (n-1)d$

Exponent Rules

Simplify the following expressions:

$\left(\frac{-3r}{5}\right)(-6r)^3$

$(3f^{-3}g^8)(-4f^7g^4)^2$

Alternative Methods of Instruction

Day 5 Assignment

Science Grades 11-12

Directions:

After reading the passage, choose the best answer to each question. You may refer to the passage as often as necessary.

Passage V

Strains of bacteria carrying a genetic mutation that prevents them from synthesizing the amino acid *histidine* are called *His*$^-$. These strains of bacteria must absorb histidine from their environment in order to sustain their growth. Exposing His$^-$ strains of bacteria to *mutagens* (substances that induce DNA mutations) can cause new mutations that restore the ability of some bacteria to synthesize histidine. Any bacterium that regains the ability to synthesize histidine becomes *His*$^+$ and is known as a *His*$^+$ *revertant*.

The number of His$^+$ revertants in a population of bacteria can indicate the potential of a substance to be mutagenic in humans. Scientists tested 4 substances, each suspected to be a mutagen, on a His$^-$ strain of the bacteria *Salmonella typhimurium*.

Study

A sterile petri dish (Dish 1) containing a nutrient agar lacking histidine was prepared. Then, 1×10^8 cells of His$^-$ *S. typhimurium* were added to Dish 1 and evenly spread over the surface of the nutrient agar. These procedures were repeated for 4 more nutrient agar dishes (Dishes 2–5), except that the bacteria were mixed with 1 of the 4 suspected mutagens before being spread over the surface of the nutrient agar. Table 1 lists, for each of Dishes 2–5, the substance that was mixed with the bacteria before they were added to the dish.

Table 1

Dish	Substance
2	L
3	M
4	N
5	P

The 5 dishes were incubated at 37°C for 2 days. At the end of the incubation period, the number of colonies growing on the nutrient agar in each dish was determined (see Table 2).

Table 2

Dish	Number of colonies
1	2
2	14
3	25
4	107
5	6

27. Based on the results of the study, which of the suspected mutagens resulted in the greatest number of His$^+$ revertants in a dish?

A. Substance L
B. Substance M
C. Substance N
D. Substance P

28. Which dish in the study was intended to serve the purpose of testing whether some of the *S. typhimurium* cells became His$^+$ revertants without the addition of a mutagen?

F. Dish 1
G. Dish 2
H. Dish 3
J. Dish 4

29. Based on the results of the study, what is the order of the suspected mutagens, from the substance with the *least* potential to be mutagenic to the substance with the *most* potential to be mutagenic?

A. P, M, N, L
B. P, L, M, N
C. N, L, P, M
D. N, M, L, P

30. In the study, the scientists tested the effect of Substance P at a concentration of 5×10^{-9} g/mL. After the study, the scientists repeated their test of the effect of Substance P, but at 3 other concentrations. The 3 concentrations and their corresponding results are shown in the table below.

Concentration of Substance P	Number of colonies
10×10^{-9} g/mL	14
50×10^{-9} g/mL	54
100×10^{-9} g/mL	114

What is the relationship, if any, between the concentration of Substance P and its potential to cause mutations?

F. As the concentration of Substance P increases, its potential to cause mutations increases only.
G. As the concentration of Substance P increases, its potential to cause mutations decreases only.
H. As the concentration of Substance P increases, its potential to cause mutations first decreases and then increases.
J. There is no relationship between the concentration of Substance P and its potential to cause mutations.

31. Before bacteria were added to it, the dish that was intended to serve as the control dish in the study lacked which of the substances listed below?

I. Histidine
II. Nutrient agar
III. Suspected mutagen

A. II only
B. III only
C. I and II only
D. I and III only

32. Which of the following statements about the numbers of bacteria that regained the ability to synthesize histidine is consistent with the results of the study for Dishes 2 and 3 ? The number of bacteria that became His^+ revertants after exposure to:

F. Substance M was about 2 times the number of bacteria that became His^+ revertants after exposure to Substance L.
G. Substance L was about 2 times the number of bacteria that became His^+ revertants after exposure to Substance M.
H. Substance M was about 4 times the number of bacteria that became His^+ revertants after exposure to Substance L.
J. Substance L was about 4 times the number of bacteria that became His^+ revertants after exposure to Substance M.

33. The particular strain of *S. typhimurium* chosen for the study lacks normal DNA repair mechanisms. Which of the following statements gives the most likely reason this particular strain was chosen? The scientists:

A. did not want the bacteria in the study to synthesize any DNA.
B. did not want the bacteria in the study to synthesize any proteins.
C. wanted the bacteria in the study to be able to repair the mutations caused by the substances.
D. wanted the bacteria in the study to be unable to repair the mutations caused by the substances.

Algebra 1 Builder # 50

Name:_____

Parallel Perpendicular Lines

Write an equation of the line that passes through the given point and is **parallel** to the given line. **(Use Slope Intercept)**

(-2,5) , $2y = 4x - 6$

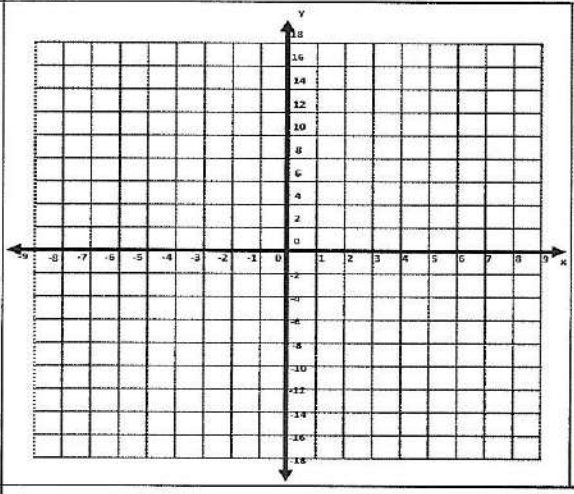
(9,4) , $y - x = 3$

Write an equation of the line that passes through the given point and is **perpendicular** to the given line.

(-2,5) , $2y = 4x - 6$

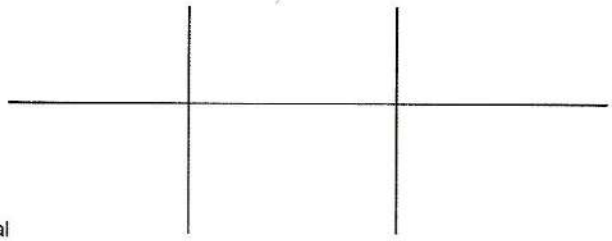
(9,4) , $y - x = 3$

Exponential Functions



Evaluate the exponential function. Solve the equation for y. Make a table, plot the points, graph the function. $y = 2(3^x)$ Use {-2, -1, 0, 1, 2} for the domain.

x	y



Is this exponential GROWTH or DECAY?

x-intercept_____ y-intercept_____ asymptote_____

Inequalities

Solve the inequality. Then graph its solution.

$-3 \leq p \leq 10$ ⟷

$-2 \leq p \leq 3$ ⟷

Word Problems

What is the next step to solve the equation?

$10x - 5(4 + 6) = 25$

Next Step=_____

Now solve the equations for x.

Arithmetic Sequence

Write a rule for the n^{th} term, where a_1 is the first term and d = common difference. Then find a_n when n = 7 24, 27, 30, 33,...n^{th}

$a_n = a_1 + (n-1)d$

Exponent Rules

Simplify the following expressions:

$(5q^{-3}r^2)^0(q^3r^5)^3$

$(4a^{-9}b^4)(2a^{-5}b)^3$