NORTH THURSTON PUBLIC SCHOOLS

END OF COURSE

ALGEBRA I

PRACTICE TEST

Name: _____

Date: _____

** Video Tutorial Edition**

Most questions below are linked to a video tutorial on the internet. To access a video, hold the control button while clicking on the link of the video you wish to watch.

Day 1

1. Order the following numbers from least to greatest: $3\pi,\ \sqrt{62},\ 8.7\times10^{0},\ \frac{19}{2}$

   0 A. $\frac{19}{2},\ 3\pi,\ 8.7\times10^{0},\ \sqrt{62}$

   0 B. $\sqrt{62},\ 8.7\times10^{0},\ 3\pi,\ \frac{19}{2}$

   0 C. $8.7\times10^{0},\ 3\pi,\ \frac{19}{2},\ \sqrt{62}$

   0 D. $3\pi,\ \sqrt{62},\ \frac{19}{2},\ 8.7\times10^{0}$

(Related Tutorial Videos: Video 1, Video 2)

2. Solve the equation for a $\quad d = vt + \frac{1}{2}at^{2}$

   0 A. $a = \frac{2d}{vt^{3}}$

   0 B. $a = \frac{d - vt}{t^{2}}$

   0 C. $a = \frac{2(d - vt)}{t^{2}}$

   0 D. $a = \frac{2d - vt}{t^{2}}$

(Related Tutorial Videos: Video 1; Video 2; Video3)

3. Determine what values of x the expression $\sqrt{5-x}$ is defined for.

   Express your answer with an inequality.

   Write your answer on the line.

(Related Tutorial Video: Video 1)

What are the defined values of x? _____

Day 2

4. Solve: $\frac{3x-1}{5} = -8$

0 A. $\frac{41}{5}$

0 B. $-\frac{41}{5}$

0 C. -13

0 D. 13

(Related Tutorial Videos: Video 1; Video 2)

5. Which equation is $y = \frac{1}{3}x - 5$ in standard form?

0 A. $-\frac{1}{3}x + y = -5$

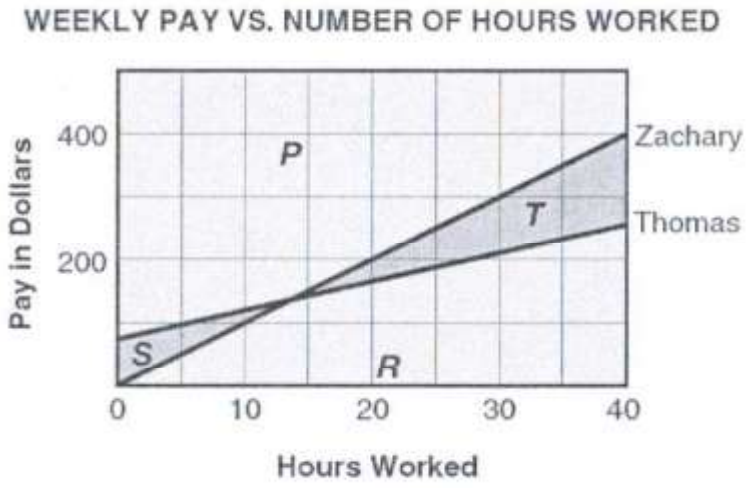
0 B. $\frac{1}{3}x - y = 5$

0 C. $x - 3y = 15$

0 D. $-x + 3y = -15$

(Related Tutorial Video: Video 1---Note: in standard form all coefficients are integers, and the leading integer for x must be positive---this is not taught in the video lesson)

6. Fred, Thomas, and Zachary worked at the ice cream store in the mall. Last week, Fred earned more money than Thomas, but less than Zachary. The graph shows the money earned by Zachary and Thomas.



Which area of the graph represents Fred's possible weekly pay?

0 A. P

0 B. R

0 C. S

0 D. T

Day 3

7. Write an equation of the line that passes through the pair of points.

(-5, -2), (3, -1)

0 A. $y = \frac{1}{8}x + \frac{11}{8}$

0 B. $y = \frac{1}{8}x - \frac{11}{8}$

0 C. $y = -\frac{1}{8}x - \frac{11}{8}$

0 D. $y = \frac{1}{8}x + \frac{8}{11}$

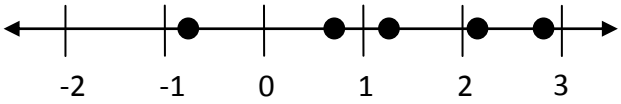
(Related Tutorial Videos: Video 1, Video 2)

8. Look at the list of numbers.

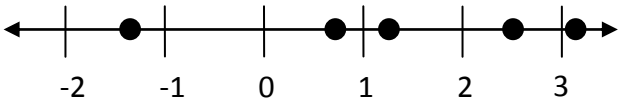
$$\frac{5}{4}, 0.75, 2\frac{1}{2}, \sqrt{10}, -\frac{4}{3}$$

Which number line represents the list of numbers?

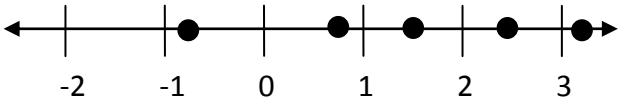
o **A.**



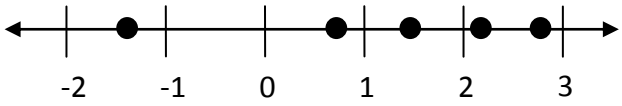
o **B.**



o **C.**



o **D.**



(Related Tutorial Video: Video 1)

9. A 1,500-gallon tank contains 200 gallons of water. Water begins to run into the tank at the rate of 75 gallons per hour. When will the tank be full but not overflowing?

0 A. 7 hours, 8 minutes

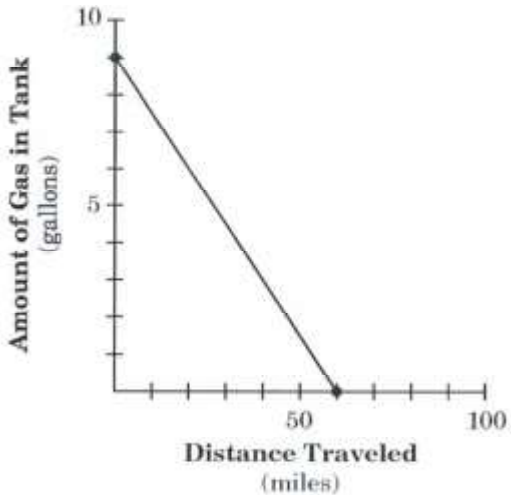
0 B. 17 hours, 20 minutes

0 C. 20 hours

0 D. 22 hours, 40 minutes

Day 4

10. According to the graph, which statement ***best*** describes the slope?



0 A. The amount of gas in the tank decreases by 3, as the distance traveled increases by 20.

0 B. The amount of gas in the tank increases by 20, as the distance traveled decreases by 3.

0 C. The amount of gas in the tank increases by 2, as the distance traveled increases by 30.

0 D. The amount of gas in the tank decreases by 3, as the distance traveled decreases by 20.

(Related Tutorial Video: Video 1)

11. Brad and Tom are comparing their classes' scores on a math test. Both of their classes had mean scores of 80 on the test, but Brad's class had a range of 6 while Tom's class had a range of 30. If the highest possible score was 100, which class had the LOWEST score in it?

0 A. Brad's class had the lowest score in it.

0 B. Tom's class had the lowest score in it.

0 C. The lowest score occurred in both classes.

0 D. It cannot be determined from the information.

(Related Tutorial Videos: Video 1, Video 2)

12. Only chocolate and vanilla ice cream cones are sold at an ice cream store. In one day, the number of chocolate cones sold was 1 more than 4 times the number of vanilla cones sold. A total of 121 cones were sold that day.

    Let c = the number of chocolate cones sold.
    Let v = the number of vanilla cones sold.

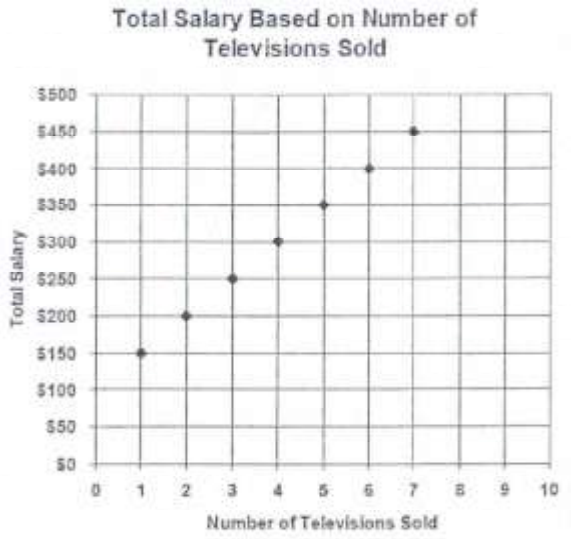
    - Write equations to determine the number of chocolate cones sold that day.
    - Use the equations to determine the number of chocolate cones sold that day.

    Show your work using words, numbers, and/or diagrams.

(Related Tutorial Videos: Video 1, Video 2)

Day 5

13. The chart shows the amount of total salary (commission plus base salary) paid to employees of a store that specializes in big screen televisions.



Which equation best represents the total salary (T) that an employee makes for selling any number of television sets (n)?

0 A. $T = 50n + 100$

0 B. $T = 100(n + 50)$

0 C. $T = 100n + 50$

0 D. $T = 50(n + 100)$

(Related Tutorial Videos: Video 1, Video 2)

14. Mr. Shindler begins traveling east on Interstate 90 from Spokane with a full tank of gasoline. His car has a 15-gallon gas tank and gets 30 miles per gallon during highway travel.

Let m = the number of miles Mr. Shindler has driven
Let g = the number of gallons of gas remaining in his tank

- **Select** and **justify** in the answer box which equation describes the relationship between the number of miles Mr. Shindler has traveled and the number of gallons remaining in his gas tank.

0 A. $g = 15 - 30m$
0 B. $m = 30g - 15$
0 C. $g = 15 - \frac{m}{30}$
0 D. $m = \frac{30}{g} - 15$

Show your work using words, numbers, and/or diagrams.

15. You are a full time employee at a marketing firm. In order to maintain fulltime status you must work a minimum of 25 hours a week, and you cannot work more than 45 hours in a week. You make $20 per hour.

- Define the domain and range in the context of the problem.
- Write your answer on the line.

Domain: _____ Range: _____

(Related Tutorial Video: Video 1)

Day 6

16. Look at the function:

$$f(x) = 2x^2 - 4x + 5$$

- Evaluate $f(x)$ at $f(-3)$.
- Write your answer on the line.

What is $f(-3)$ = _____

(Related Tutorial Video: Video 1)

17. Which table represents the recursive formula:

$a_n = a_{n-1} - 6$

A.

n	a_n
1	1
2	-5
3	1
4	-5
5	1

B.

n	a_n
1	2
2	8
3	14
4	20
5	26

C.

n	a_n
1	2
2	-2
3	-10
4	-26
5	-58

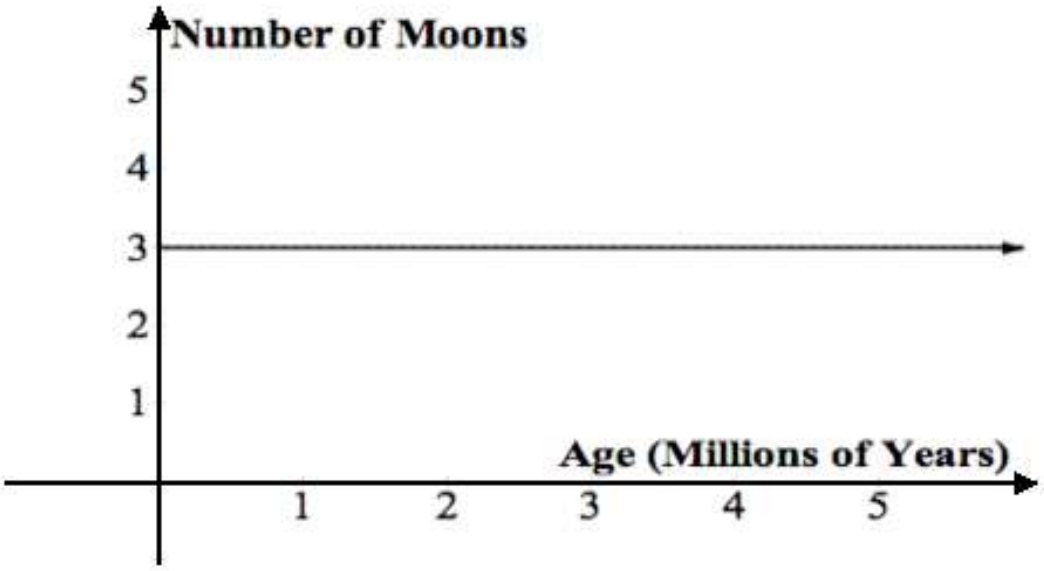
D.

n	a_n
1	5
2	-1
3	-7
4	-13
5	-19

(Related Tutorial Video: Video 1)

18. This graph shows the relationship between the age of a planet in millions of years and the number of moons the planet has.

    Which of these statements is true about the graph?



0 A. The dependent variable is the number of moons.

0 B. The independent variable is the number of moons.

0 C. Since the number of moons is staying the same, there is no dependent variable.

0 D. Since the number of moons is staying the same, there is no independent variable.

(Related Tutorial Video: Video 1)

Day 7

19. Solve the equation for x.

$$4x + 14 = 7x + 5$$

(Related Tutorial Video: Video 1)

20. At a particular company, every employee receives a 4% cost-of-living increase to their salary.

    What impact does this cost-of-living increase have on the mean and on the range of employee salaries at the company?

    0 A. The mean increases but the range does not change.

    0 B. The mean does not change but the range increases.

    0 C. The mean and range both increase.

    0 D. The mean and range do not change.

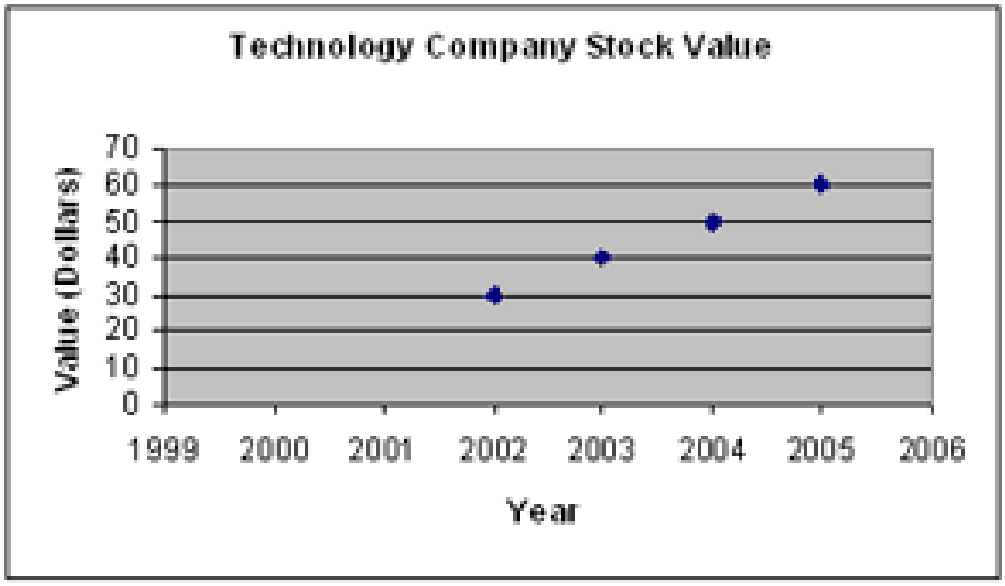
21. The graph shows the stock value for a technology company from 2002 to 2005. From this graph, draw a line that fits the data and determine what is the most likely value of the stock for the year 2000?

    0 A. $0

    0 B. $10

    0 C. $20

    0 D. $30



(Related Tutorial Video: Video 1)

Day 8

22. Choose the correct solution to the equation $\frac{3x-1}{2} = 4$

    0 A. $x = 3$

    0 B. $x = \frac{7}{3}$

    0 C. 1

    0 D. $\frac{5}{3}$

(Related Tutorial Videos: *See question 4*)

23. Which of the following lines is parallel to the line represented by the equation? $y = \frac{1}{2}x + 10$

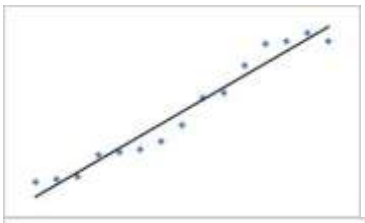
0 A. $y = -\frac{1}{2}x + 10$
0 B. $y = \frac{1}{2}x + 8$
0 C. $y = 2x + 10$
0 D. $y = -2x + 8$

(Related Tutorial Video: Video 1)

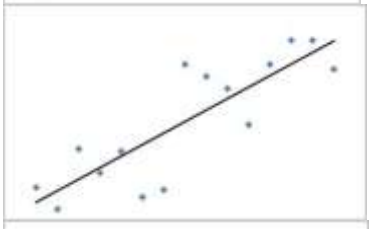
24. Lucy did a study on the number of hours students spend on the internet each day and their grades in math class. She found that there was a negative correlation between the two.

Which scatterplot shows a strong, negative correlation of her data?

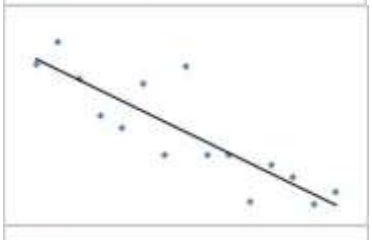
0 A.



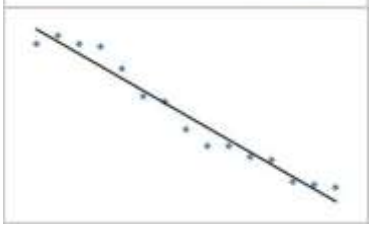
0 B.



0 C.



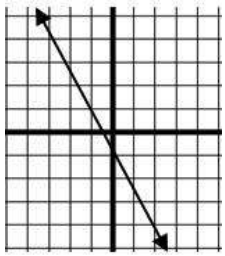
0 D.

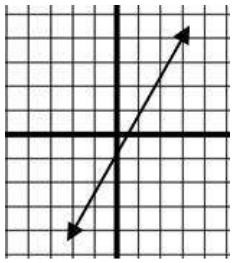


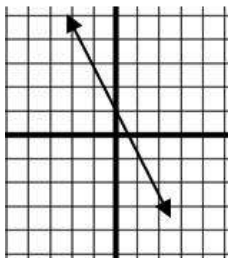
(Related Tutorial Video: Video 1)

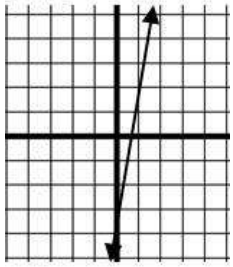
Day 9

25. Given the points (5, 9) and (-6, -13) find the graph of the equation of the line:

0 A. 

0 C. 

0 B. 

0 D. 

(Related Tutorial Video: Video 1)

26. Write and graph an equation for a line given the slope and the y-intercept, the slope and a point on the line, or two points on the line, and translate between forms of linear equations

A) Write the equation of the line with y-intercept equal to 5 and a slope equal to 3.
B) Write the equation of the line with a slope of 2 that goes through the point (1,1).
C) Write the equation of the line that goes through the points (-3,5) and (-1,-3) without graphing.

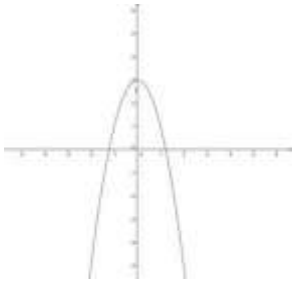
A) _____ B) _____ C) _____

(Related Tutorial Videos: Video 1, Video 2)

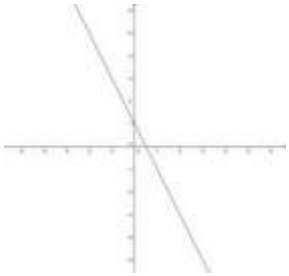
27. Which of the following are functions (Mark all that apply)?

a.{(4,1),(7,1),(-2,4),(4,2)}

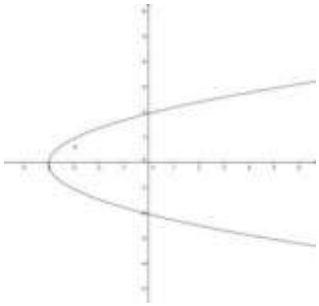
b.



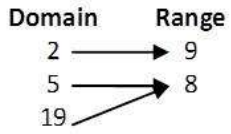
c.



d.



e.



(Related Tutorial Video: Video 1)

Day 10

28. Which of these is the equation of a line with y-intercept (0, 2) and slope $\frac{1}{3}$?

0 A. $y = \frac{1}{3}x + 2$

0 B. $y = 2x + \frac{1}{3}$

0 C. $\frac{1}{3}y = 2x$

0 D. $2y = \frac{1}{3}x$

(Related Tutorial Videos: *See question 26*)

29. Look at the list of numbers.

$$-\frac{3}{2}, -1.6, -2.0, -\frac{16}{7}, -\frac{16}{9}, -\sqrt{9}$$

Which list shows the numbers in order from least to greatest?

- **A.** $-\sqrt{9}, -\frac{16}{7}, -2.0, -\frac{16}{9}, -1.6, -\frac{3}{2}$
- **B.** $-\sqrt{9}, -\frac{16}{7}, -\frac{16}{9}, -2.0, -1.6, -\frac{3}{2}$
- **C.** $-\sqrt{9}, -\frac{16}{9}, -2.0, -\frac{16}{7}, -1.6, -\frac{3}{2}$
- **D.** $-\sqrt{9}, -2.0, -\frac{16}{9}, -1.6, -\frac{16}{7}, -\frac{3}{2}$

(Related Tutorial Videos: *See question 1*)

30. For what values of a is $a > a^2$?

- **A.** $a < 0$
- **B.** $-1 < a < 1$
- **C.** $0 < a < 1$
- **D.** $a > 0$

Day 11

31. Evaluate the expression for x = - 2.

$$3x^2 + 10$$

What is the value of the expression?

- **A.** 46
- **B.** 22
- **C.** -2
- **D.** -26

(Related Tutorial Video: Video 1)

32. Find the 21st term of the arithmetic sequence: 18, 23, 28, 33, . . .

(Related Tutorial Video: Video 1)

33. Write an equation of the line that is perpendicular to $y = \frac{1}{2}x + 8$ and goes through (-4, 5).

0 A. $y = -\frac{1}{2}x + 3$
0 B. $y = \frac{1}{2}x + 7$
0 C. $y = -2x + 8$
0 D. $y = -2x - 3$

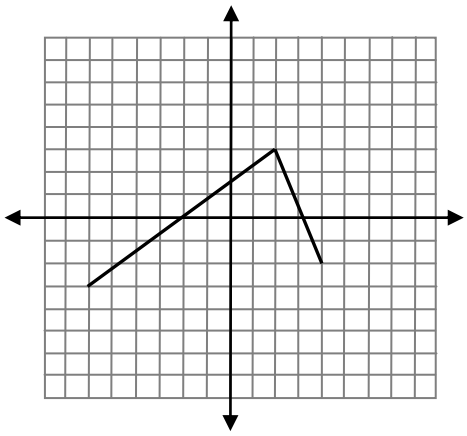
(Related Tutorial Video: Video 1)

Day 12

34. The assistant can make 8 pizzas in an hour. The master pizza maker can make 10 pizzas in an hour but starts baking 2 hours later than his assistant. Together, they must make 106 pizzas. How many hours will the assistant make pizzas before they are done making 106 pizzas?
Show your work using words, numbers, and/or pictures.

How many hours will the assistant make pizzas? _____

35. Look at the function.



What is the domain and range?

0 A. Domain: $-6 \leq x \leq 4$, Range: $-2 \leq y \leq 3$

0 B. Domain: $-3 \leq x \leq 3$, Range: $-6 \leq y \leq 4$

0 C. Domain: $-2 \leq x \leq 4$, Range: $0 \leq y \leq 3$

0 D. Domain: $-2 \leq x \leq 3$, Range: $-6 \leq y \leq 3$

(Related Tutorial Videos: Video 1, Video 2)

36. Solve the equation for x.

$$-3(x - 8) = -12$$

What is the value of x?

- **A.** -4
- **B.** 4
- **C.** 12
- **D.** 6

(Related Tutorial Video: Video 1)

Day 13

37. Look at the system of linear equations.

$$\begin{cases} 3x + y = 13 \\ x + 6y = -7 \end{cases}$$

Solve the system of linear equations.

- **A.** (-5, 28)
- **B.** (-2, 19)
- **C.** (7, 2)
- **D.** (5, -2)

(Related Tutorial Videos: Video 1, Video 2)

38. After solving the following system of equations Sarah claimed that the system has no solution. Colton disagreed and said that the system actually has an infinite number of solutions. Who is correct and why? Show all work to justify your conclusion.

$$\begin{cases} y = 2x - 5 \\ 4x - 2y = 10 \end{cases}$$

Who is correct? _____

(Related Tutorial Videos: Video 1, Video 2)

39. If $y = |x| + 3$, then when is y a positive number?

0 A. always

0 B. when x > -3

0 C. when x > 3

0 D. never

(Related Tutorial Video: Video 1)

Day 14

40. Simplify $\sqrt{20}$

0 A. 10

0 B. $4\sqrt{5}$

0 C. $2\sqrt{5}$

0 D. $5\sqrt{2}$

(Related Tutorial Video: Video 1)

41. The equation $13 - 2|x + 3| = 5$ has two real solutions.

Determine the negative solution of the equation.

Write your answer on the line.

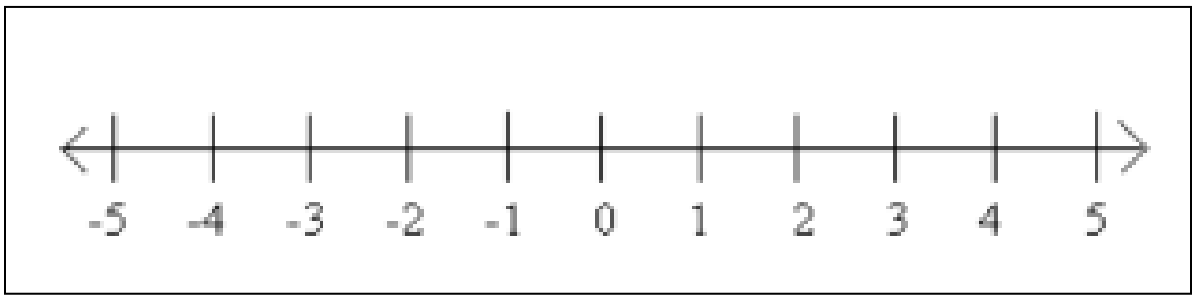
What is the negative solution of the equation? _____

42.

(Related Tutorial Video: Video 1)

42. Solve for x: $-4 < 3x + 2 \leq 14.$

Display the set of solutions that makes the compound inequality true by graphing them on the number line below.



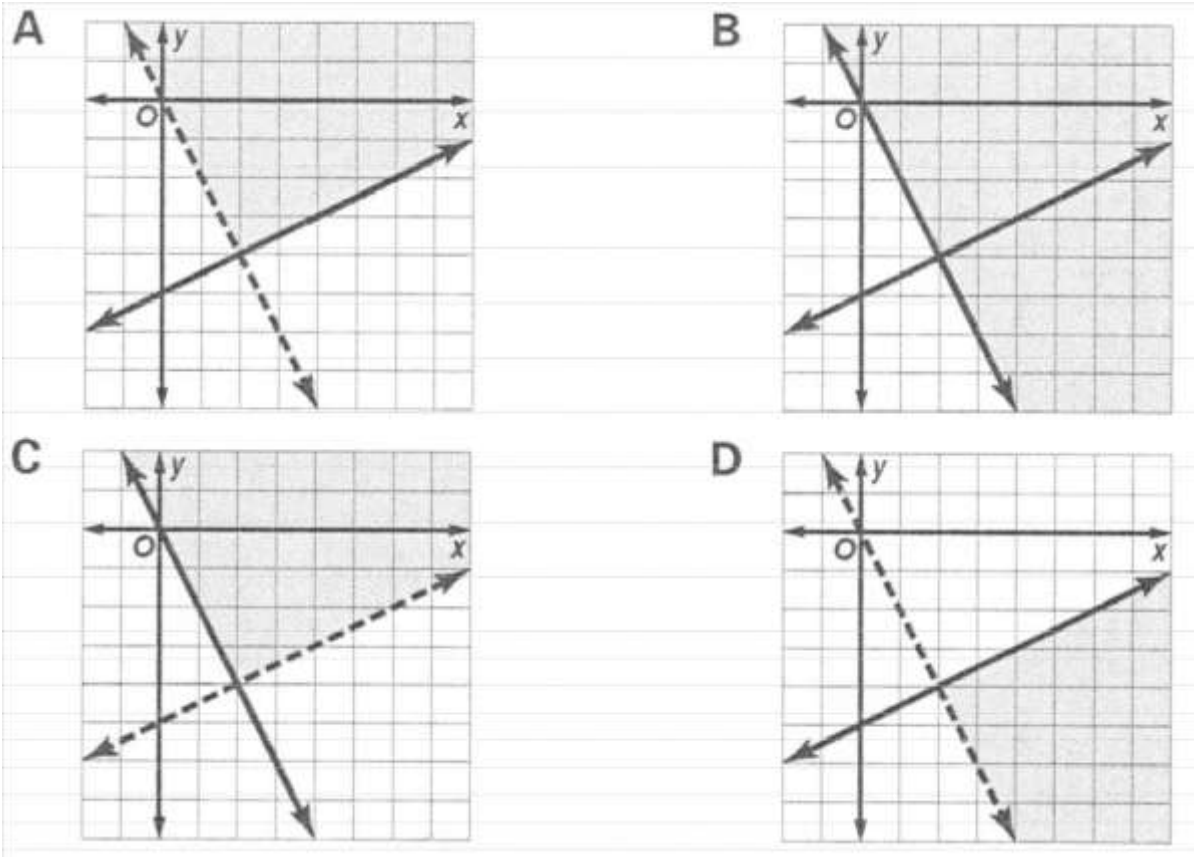
(Related Tutorial Video: Video 1)

Day 15

43. Which is the graph of the solution set of the system of inequalities?

$x - 2y \leq 10$

$2x + y > 0$



(Related Tutorial Videos: Video 1, Video 2)

44. In 2000, 5500 people attended the State B basketball tournament. The enrollment has been increasing 2% annually. Select the equation that would determine the total number of people who attend t years after 2000.

0 A. $y = 5500(.02)^x$

0 B. $y = 5500(0.2)^x$

0 C. $y = 5500(1.02)^x$

0 D. $y = 5500(1.2)^x$

(Related Tutorial Videos: Video 1, Video 2, Video 3)

45. Which function best represents the values in the table below?

x	*f(x)*
-3	-27
-1	-1
0	0
2	8
5	125

0 A. $f(x) = x^3$

0 B. $f(x) = \sqrt{x}$

0 C. $f(x) = \frac{1}{x}$

0 D. $f(x) = |x|$

Day 16

46. Which best describes the difference(s) between the graphs of $f(x) = -5x + \frac{3}{4}$ and $g(x) = -10x + \frac{3}{4}$?

0 A. The graph of f(x) is twice as steep as the graph of g(x).

0 B. The graph of f(x) is half as steep as the graph of g(x).

0 C. The graph of f(x) has a y-intercept of 5 while g(x) has a y-intercept of 10.

0 D. Both A and C are true.

(Related Tutorial Video: Video 1)

47. Graph A is the graph of $y = 2(3)^x$ and graph B is the graph of $y = 3(2)^x$.

Which statement about the two graphs is true?

0 A. Both graphs A and B rise at the same rate.

0 B. Graph B rises at a faster rate than graph A.

0 C. Graph A rises at a faster rate than graph B.

0 D. The y-intercept of graph A is above the y-intercept of graph B.

(Related Tutorial Videos: Video 1, Video 2)

48. Solve the equation $3^x = 729$.

0 A. x = 5

0 B. x = 6

0 C. x = 243

0 D. x = 726

(Related Tutorial Video: Video 1)

Day 17

49. The expression $\left(\frac{(x^3)^{-2}}{x^2 \cdot x^3}\right)^3$ simplifies to the form x^m, for all nonzero values of x.

Determine the value of *m*.

Write your answer on the line.

What is the value of *m*? _____

(Related Tutorial Videos: Video 1, Video 2, Video 3, Video 4)

50. Look at the expression.

$$\frac{-16m^{10}}{8m^5}$$

Simplify the expression and write it without negative exponents.

- **A.** $-8m^5$
- **B.** $-2m^5$
- **C.** $\frac{1}{2}m^{15}$
- **D.** $-2m^{15}$

(Related Tutorial Videos: *See problem 49*)

51. Evaluate the expression.

$$\sqrt[3]{-27}$$

Write your answer on the line.

What is the cube root of -27? _____

(Related Tutorial Video: Video 1)

Day 18

52. Graph A is the graph of $y = |x| + 2$ and graph B is the graph of $y = |2x| + 8$.

Which statement about the two graphs is true?

- O **A.** Graph A and B have the same vertex.
- O **B.** Graph A is less steep than graph B.
- O **C.** Graph B has a y-intercept that is 8 units above the y-intercept of Graph A.
- O **D.** Graph B has a vertex that is 8 units above the vertex of Graph A.

(Related Tutorial Videos: Video 1)

53. Graph A is the graph of $y = 2(3)^{-x}$ and graph B is the graph of $y = 2(3)^{x}$.

Which statement about the two graphs is true?

- O **A.** Both graphs A and B rise at the same rate.
- O **B.** Graph B rises at a faster rate than graph A.
- O **C.** Graph A rises at a faster rate than graph B.
- O **D.** The y-intercept of graph A is above the y-intercept of graph B.

(Related Tutorial Videos: *See question 47*)

54. Look at the exponential equation.

$$y = 200(1.08)^{x}$$

Determine the approximate value for x = 6. Round any decimals to two places.

- O **A.** 222
- O **B.** 317.47
- O **C.** 1,296
- O **D.** 101,559,956,668,416

(Related Tutorial Video: Video 1)

Day 19

55. In the laboratory, a bacteria population doubles in size every 15 minutes. A new bacteria culture is started with 10 bacteria cells.

Which equation models the size of the bacteria population, *p*, at the end of *t* 15-minute intervals?

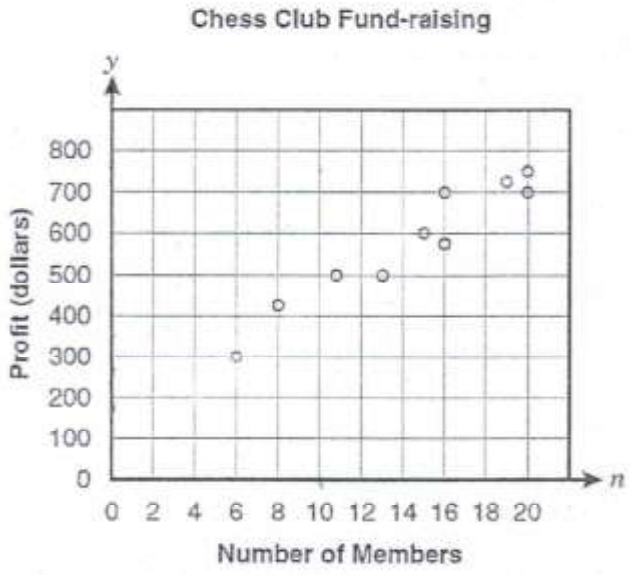
- o **A.** $p = 2(10)^t$
- o **B.** $p = 10(2)^t$
- o **C.** $p = 10(2 + 15)^t$
- o **D.** $p = 2(10)^{t-15}$

(Related Tutorial Video: Video 1)

56. P and Q vary inversely. P is 10 when Q is 4. Find P, when Q is 8

(Related Tutorial Videos: Video 1, Video 2)

57. Vance graphed the relation between fund-raising profits for the chess club and the number of members.



Which equation represents a line that fits the data?

0 A. $y = 29n + 180$

0 B. $y = 60n + 180$

0 C. $y = \frac{2}{3}n + 180$

0 D. $y = \frac{200}{3}n + 180$

(Related Tutorial Videos: *See question 13*)

Day 20

58. Which equation or inequality has exactly ONE real solution?

0 A. $|x - 7| \geq 10$
0 B. $0 = \frac{10}{x}$
0 C. $4 \leq 2x + 10 < 7$
0 D. $2(x - 4) = 6x + 8$

59. Simplify: $\frac{3x^{-2}y^3z}{9x^3y^{-5}z^2}$

0 A. $\frac{y^8}{3x^5z}$

0 B. $\frac{xy^2z}{3}$

0 C. $\frac{xz}{3y^2}$

0 D. $\frac{y^{15}}{3x^6z^2}$

(Related Tutorial Videos: *See question 49*)

60. If $f(x) = 3x - 2$, then $f(-2) =$ _____

(Related Tutorial Videos: *See question 16*)

Day 21

61. A company decides to give every one of its employees a $1000 raise. What happens to the mean and median of the salaries as a result?

0 A. Mean stays the same, Median increases by $1000
0 B. Mean increases by $1000, Median stays the same
0 C. Mean and Median are the same
0 D. Mean and Median both increase by $1000.

(Related Tutorial Videos: Video 1, Video 2)

62. Write a direct variation equation that relates x and y. Assume that y varies directly with x. Then solve. If y=5 when x = -10, then find y when x=1.

0 A. $y = -\frac{1}{2}x;\ -\frac{3}{5}$

0 B. $y = \frac{1}{2}x;\ \frac{1}{2}$

0 C. $y = -\frac{1}{2}x;\ -\frac{1}{2}$

0 D. $y = -\frac{7}{10}x;\ -\frac{7}{10}$

(Related Tutorial Videos: *See question 56*)

63. Translate the sentence into an equation: ***The sum of one-fifth p and 38 is as much as twice p***

0 A. $\frac{1}{5}p + 38 = 2p$

0 B. $\frac{1}{5}(p + 38) = 2p$

0 C. $\frac{1}{5}p(2p + 38) = 2p$

0 D. $\frac{1}{5} + p + 38 = 2p$

Day 22

64. Write the equation is slope intercept form: $y + 3 = 3(x - 1)$

0 A. $y = -3x - 6$
0 B. $y = 3x - 6$
0 C. $y = 3x + 4$
0 D. $y = 3x + 6$

(Related Tutorial Videos: Video 1, Video 2)

65. Tara's cell phone plan costs $39.00 a month, which includes 100 text messages. After she uses all of her text messages, it will cost her $.15 per text message.

- Write an equation or inequality that could be used to determine the total cost of her cell phone bill after her first 100 text messages.
- If Tara only wants to spend $43 on her cell phone bill, how many text messages can she send?

66. A college professor at the University of Washington surveyed 150 students at the university. The students were asked if they prefer in class or take home tests. The professor drew the conclusion: "One out of four college students prefer take home tests." Explain why this conclusion is misleading.

0 A. The professor surveyed a small sample of the population at one university but made the conclusion about the entire population of college students.

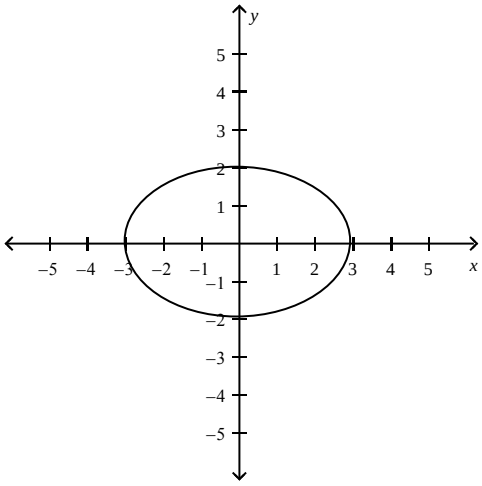
0 B. The survey question was biased toward in class tests.

0 C. The students were not selected randomly.

0 D. The sample size was too small.

Day 23

67. Give the domain and range of the relation. Tell whether the relation is a function.



0 a. D: $-3 \leq x \leq 3$; R: $-2 \leq y \leq 2$
The relation is not a function.

0 b. D: $-2 \leq x \leq 2$; R: $-3 \leq y \leq 3$
The relation is not a function.

0 c. D: $-3 \leq x \leq 3$; R: $-2 \leq y \leq 2$
The relation is a function.

0 d. D: $-2 \leq x \leq 2$; R: $-3 \leq y \leq 3$
The relation is a function.

(Related Tutorial Video: Video 1)

68. Determine whether the sequence appears to be an arithmetic sequence. If so, find the common difference, write the explicit formula, and the next three terms in the sequence.

$-5, -11, -17, -23, -29$

(Related Tutorial Video: Video 1

69. Find the slope of the line described by $x - 3y = -6$.

0 a. $\frac{1}{3}$

0 b. -3

0 c. $-\frac{1}{3}$

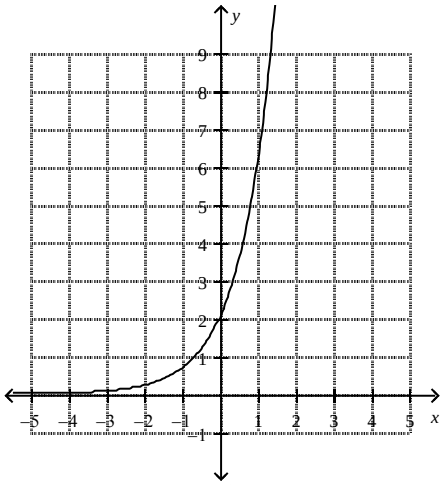
0 d. 3

(Related Tutorial Video: Video 1)

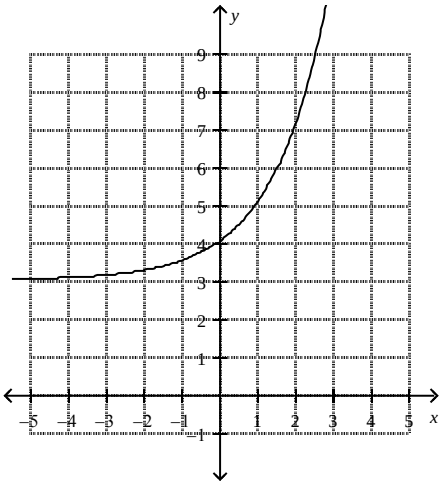
Day 24

70. Which graph represents the function: $f(x) = 3(2)^x$

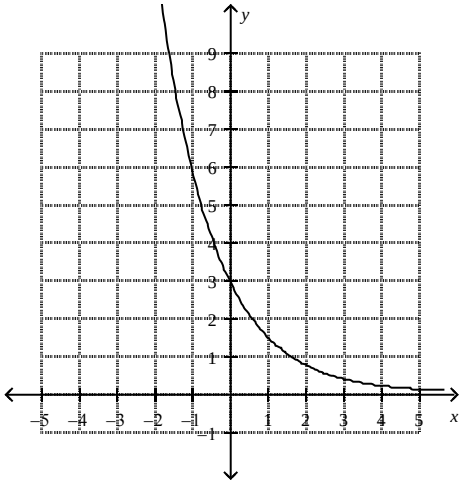
0 a.



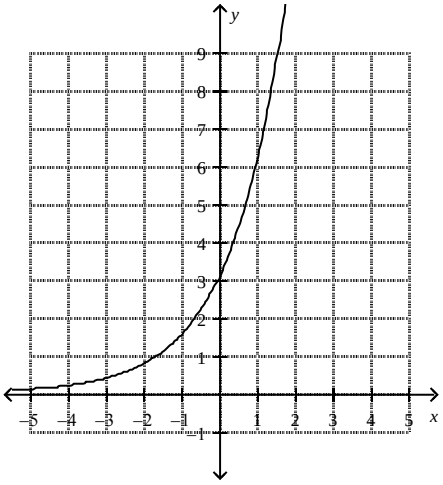
0 c.



0 b.

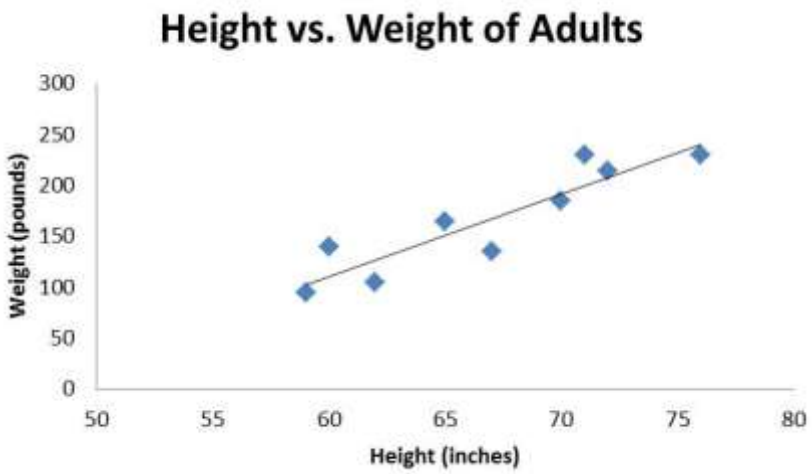


0 d.



(Related Tutorial Video: Video 1)

71. Which of the following statements is a generalization of the slope of the line below?



0 A. For every inch a person grows, he will gain one pound
0 B. For every inch a person grows, his weight will not change
0 C. For every inch a person grows, he will gain 8 pounds
0 D. For every inch a person grows, he will gain 20 pounds

(Related Tutorial Videos: *See Question 10*)

72. Write an equation or inequality for:

A) All numbers at least 3 units from 5

B) An equation with no real solutions

Day 25

73. Solve the equation for x:

$$|2x + 1| + 1 = -12$$

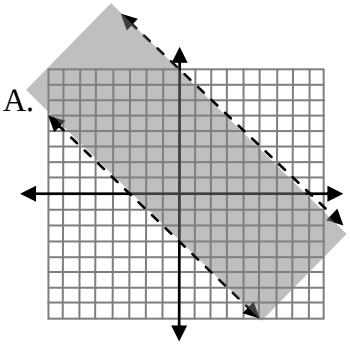
(Related Tutorial Videos: Video 1, Video 2)

74. Look at the system of linear inequalities.

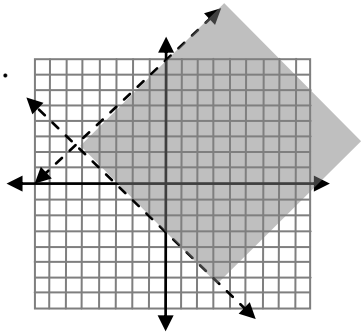
$$\begin{cases} y > -x - 3 \\ y < -x + 8 \end{cases}$$

Which graph represents the solutions to the system of linear inequalities?

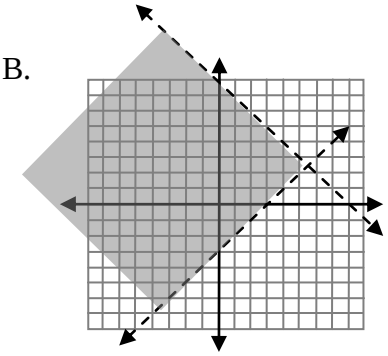
0 A.



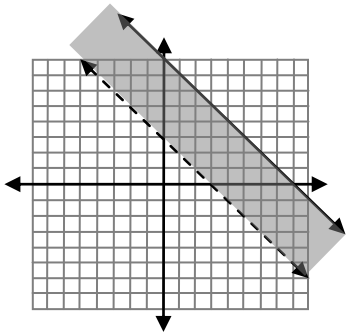
0 C.



0 B.



0 D.



(Related Tutorial Video: Video 1)

75. Look at the geometric sequence.

$$t_1 = 5$$
$$t_n = 3 \cdot t_{n-1}$$

Which equation represents the geometric sequence in explicit form?

- **A.** $a_n = 3(5)^n$
- **B.** $a_n = 3(5)^{n-1}$
- **C.** $a_n = 5(3)^n$
- **D.** $a_n = 5(3)^{n-1}$

(Related Tutorial Videos: Video 1, Video 2)