

Honors Algebra 1 Summer Assignment (2022-2023)

Name _____

Date _____

Dear Honors Algebra 1 Student,

Welcome to UHS! Your summer assignment consists of problems preparing you for the first chapter in our Honors Algebra 1 book. You are to complete the entire assignment by the first full day of school (meaning you don't have to bring it on freshman orientation). I will be collecting it then. You can reach me at kdugan@youngstowndiocese.org if you have any questions, I would be happy to help. I hope you have a great summer and I look forward to meeting you!

Sincerely,

Mrs. Dugan

Directions:

- Please complete the following without a calculator.
- Show and LABEL all of your work on *separate sheet of paper* if you cannot fit on this sheet.
- CIRCLE your answers on your work page.
- Record your answers on the answer line provided.
- Be sure to *read* the instructions carefully and answer *all* parts of the question.

Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

15. _____

Evaluate the expression.

1. $12 - q$ when $q = -8$

2. $3x$ when $x = 9$

3. w^4 when $w = -2$

4. $\frac{24}{t}$ when $t = 4$

5. $34.5x$ when $x = 4$

6. $\frac{1}{3}y$ when $y = \frac{9}{10}$

7. $\left(\frac{1}{2}\right)^5$

8. $\frac{x}{y}$ when $x = 6$ and $y = \frac{1}{2}$

Write the power as a product.

9. 10^4

10. $(2.6)^3$

11. -3^6

12. $(-4)^2$

13. $-(2)^4$

14. 1^7

15. The height of a horse is often measured in hands. You can estimate the height (in inches) of a horse by using the expression $4h$, where h is the number of hands. How tall is a horse that measures 14 hands?

Evaluate the expression.

16. $3[15 - (2^3 - 6)^2]$

17. $15 - 7 \cdot 2$

18. $2 + 2^3 \div 4$

19. $5(3^2 - 4)$

20. $16 \div (4 - 2) - 3$

21. $\frac{(37 - 26)^2 - 6}{32 \div 2^2 - (4^2 - 13)}$

Answers

16. _____

17. _____

18. _____

19. _____

20. _____

21. _____

Translate the verbal phrase into an algebraic expression.

22. The sum of a number x and 9

23. Six less than a number w squared

22. _____

23. _____

Write an equation or an inequality.

24. Three more than twice a number b is equal to 13.

25. The product of 5 and a number k is less than 60.

24. _____

25. _____

Evaluate the expression for the given values of the variables.

26. $3m - n$ when $m = 5$ and $n = 4$

27. $2u^2 + v$ when $u = 3$ and $v = 7$

26. _____

27. _____

Check whether the given number is a solution of the equation or the inequality.

28. $4y - 1 \geq 20$; 4

29. $4a - 7 = 3a - 4$; 3

28. _____

29. _____

30. A bicycle travels at an average speed of 15 miles per hour.
How many miles does the bicycle travel in 1.5 hours?

30. _____

Answers

Perform the indicated operation. Write the answer with the correct number of significant digits.

31. $68.7 \text{ m} - 12.45 \text{ m}$

32. $34.12 \text{ in.} \times 2.4 \text{ in.}$

31. _____

32. _____

Choose the more precise measurement.

33. 32.5 lb; 28.35 lb

34. 82.1 mm; 48.3 cm

33. _____

34. _____

Tell whether the table is a function.

35.

Input	Output
0	3
5	7
10	7
15	11

36.

Input	Output
1	12
2	6
2	3
3	1.5

35. _____

36. _____

Make a table for the function. Identify the range of the function.

37. $y = 2x + 1$

Domain: 0, 1, 2, 3

Input, x				
Output, y				

37. _____

38. _____

38. $y = 20 - 3x$

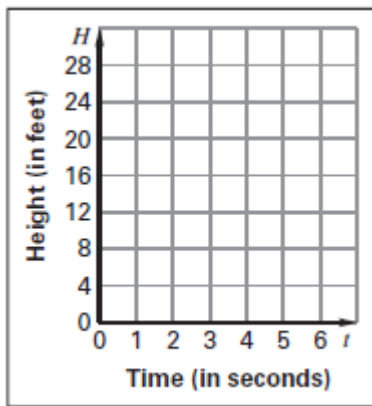
Domain: 0, 2, 4, 6

Input, x				
Output, y				

Answers

39. The table shows the height H (in feet) of an object as a function of the time t (in seconds) after being thrown vertically upward. Graph the function.

Time elapsed, t	0	1	2	3	4	5
Height, H	6	23	28	24	18	13

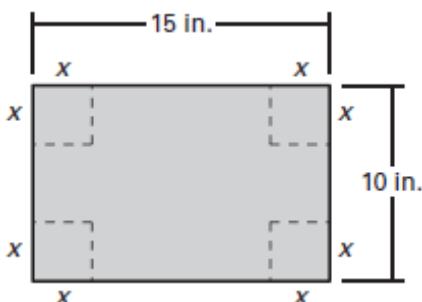


39. _____

40. _____

40. You can convert temperatures in degrees Fahrenheit to degrees Celsius by using the expression $\frac{9}{5}C + 32$, where C is the temperature (in degrees Celsius). Convert 35°C to degrees Fahrenheit.

41. A rectangular box is created by cutting out squares of equal sides of lengths x from a piece of cardboard 10 inches by 15 inches and folding up the sides as shown in the figure. The volume of the box is given by $V = x(10 - 2x)(15 - 2x)$. Find the volume of the box when the side length of the square is 3 inches.



41. _____

42. A carpet outlet advertises a price of \$470.40 to carpet a 12-foot by 16-foot room. If a customer was given a price of \$725.20 for carpeting a room that is 16 feet wide, what is the length of the room?

Answers

42. _____

Find the range of the function. Then graph the function.

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

44. $y = x - 6$

43. _____

Domain: 0, 1, 2, 3, 4

Domain: 10, 12, 14, 16, 18

44. _____

