

Algebra 1 Summer Packet

The Algebra 1 teaching staff at Union High School would like to welcome you. We are looking forward to working with you next school year. We have developed the attached review packet to help you prepare for the Algebra 1 course you will be taking this fall. This packet includes concepts that are expected to be mastered before beginning the Algebra 1 curriculum. The topics covered in the packet are the basic skills necessary to be successful in Algebra 1.

High School Algebra teachers will be collecting the packet on the first Friday of school. There will be a graded assessment the following week.

Students may use any resources available to them to complete this packet. The websites Math.com and PHSchools.com are two helpful resources.

Be sure to spend the time needed to do a quality job on this packet. Show your work for each problem, so you and your teacher can locate any mistakes. In that way, you can learn from these mistakes. You may use a calculator where needed, but write down your calculations.

Enjoy your summer vacation and keep your education moving forward during this break.

Name: _____

Date: _____

Period: _____

Algebra 1 Summer Packet**Simplify the expression.**

1) $8 + (-3)$

2) $(-3)(4)(-1)$

3) $15 - (-5)$

4) $-4^2 + (-3)^2$

5) $18 + 3^2 \div (10 - 1)$

6) $10x - 5x + x$

7) $6y - 2y - 7x + 4x$

8) $5[2(8 + 5) - 15]$

9) $2(x + y) + 4x$

10) $\frac{1}{2}(8x + 6)$

11) $5(y + 2) - (y - 4)$

12) $|-3 + 2| + |-7|$

13) $-\frac{1}{8} - \frac{2}{7}$

14) $\frac{8+4}{-7+5}$

15) $3.7 - 1.8 - 3.67 + 4.4 - 1.34$

16) $2(x + y) + 4(2x + 3y)$

Solve the equations

17) $x - 2 = -7$

18) $-14 = x + 2$

19) $-4x = 20$

20) $\frac{x}{5} = -35$

21) $\frac{2}{3}x = 12$

22) On a diving exercise, a submarine rose 40 ft, dove 30 ft, rose 6 ft, and dove 25 ft. What was the change in depth after the exercise?

23) Application: Before a show, there are 8 people in a theatre. Five groups of 4 people enter and then three groups of 2 leave. Write an expression and evaluate the expression to find out how many people are in the theatre?

Write an expression for each phrase.

24) 7 less than the product of a number and 6. _____

25) 6 times the quantity of a number plus 12. _____

Evaluate each expression.

26) $\frac{-b}{c}$ for $b = -10$ and $c = 2$

27) $|x - 2y|$ for $x = 3$ and $y = 2$

28) ab^2 for $a = 2$ and $b = 3$

29) $(ab)^2$ for $a = 2$ and $b = 3$

30) $x^3 + y^2$ for $x = 2$ and $y = -3$

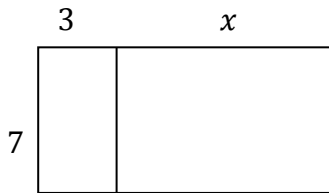
31) $4x - y$ for $x = 5$ and $y = -2$

32) Find the **mean, median, mode, and range** of the set of data below.

Time spent on homework in hours/day 1 1 1 2 2 3 4

33) Mrs. Algebra allows her students to decide whether to use the mean, median, or mode for their test averages. Jason's test scores are 79, 80, 91, 83, and 79. Which measure should he chose and why?

34) Write an expression that represents the AREA of the rectangle. Then simplify.



35) Write an expression that represents the PERIMETER of the trapezoid. Then simplify.

