

Use the choices below to fill in each blank.

Equations   variable   base   grouping   expression   solution   solving  
exponent

1. In the expression  $5^2$ , the 5 is called the \_\_\_\_\_ and the 2 is called the \_\_\_\_\_.
2. The symbols  $()$ ,  $\{\}$ , and  $[\ ]$  are examples of \_\_\_\_\_.
3. A symbol that is used to represent a number is called a(n) \_\_\_\_\_.
4. A collection of numbers, variables, operation symbols and grouping symbols is called a(n) \_\_\_\_\_.
5. A mathematical statement that two expressions are equal is called a(n) \_\_\_\_\_.
6. A value of the variable that makes an equation a true statement is called a(n) \_\_\_\_\_.
7. Deciding what values of a variable make an equation a true statement is called \_\_\_\_\_ the equations.

Evaluate.

8.  $4^4$

9.  $\left(\frac{6}{11}\right)^2$

10.  $(0.03)^3$

Simplify.

11.  $2 + (5 - 2) + 4^2$

12.  $\frac{3}{4} \cdot \frac{1}{2} + \frac{2}{3}$

13.  $\frac{19-3 \cdot 5}{6-4}$

14.  $\frac{16+|13-5|+4^2}{17-5}$

15.  $2 + 3[10(4 \cdot 5 - 16) - 30]$

16.  $\left(\frac{3}{8}\right)^2 + \frac{1}{4} + \frac{1}{8} \cdot \frac{3}{2}$

17. Evaluate the expression if  $x = 12$ ,  $y = 8$ , and  $z = 4$ .

$$\frac{y^2 + x}{x^2 + 3y}$$

18. Is 5 a solution of  $3x + 30 = 9x$ ?

19. Is 0 a solution of  $x = 5x + 15$ ?

Write each phrase as an algebraic expression. Let  $x$  represent the unknown number.

20. Five subtracted from a number.

21. Twice a number, decreased by 72.

22. The difference of sixteen and four is greater than ten.

23. Three less than twice a number.

24. Write any expression, using 3 or more numbers, that simplifies to -11.

25. Write any expression, using 4 or more numbers, that simplifies to 7.