Name _____

Writing Expressions

Write the phrase as an expression.

1. 12 more than x _____

2. x less than 36 _____

3. one-third of a _____

4. 17 times s _____

5. b multiplied by 5 _____

6. y to the fourth power _____

7. 64 plus k _____

8. u tripled _____

9. p cubed _____

10. 18 minus x _____

11. 4 less than k _____

12. z increased by 12 _____

Write an expression to answer each question.

13. What is the product of 82 and g? _____

14. What is the difference between n and 7? _____

15. What is the quotient of 32 and x? _____

16. What is the sum of h and 7? _____

17. What is 31 less than c? _____

18. What is the fifth power of t? _____

19. What is one-eighth of r? _____

20. Carolyn made t batches of 12 cookies. How many cookies did she make? _____

21. A jar holds n ounces of jam. How many jars are needed for 200 ounces of jam? _____

Write the problem as an expression.

22. History Thomas Jefferson was born in 1801. George Washington was born y years earlier. In what year was George Washington born? _____

23. Science A spider has 8 legs. How many legs do s spiders have? _____

Algebra

Lesson 1: Writing Expressions

A **variable** is any letter that represents an unknown number.

A **numerical expression** has numbers and operations.

A **variable expression** also has variables.

It is sometimes called an *algebraic expression*.

EXAMPLE 1 Here are some numerical expressions.

Words	Symbols
four times ten	$4 \cdot 10 \quad 4 \times 10 \quad 4(10)$
the sum of two and five	$2 + 5 \quad (2 + 5)$
nine divided by the difference of six and one	$9 \div (6 - 1) \quad \dfrac{9}{6 - 1}$

HINT
Notice in the examples shown here that some operations can be represented by more than one symbol.

EXAMPLE 2 Here are some variable expressions.

Words	Symbols
the product of seven and n	$7 \cdot n \quad 7 \times n \quad 7(n)$
a minus b plus four	$a - b + 4$
the quotient of a number and two	$x \div 2 \quad \dfrac{x}{2}$

Practice: First Try

Write symbols for the given words.

1. the sum of eight and six

2. twenty divided by five

3. the product of x and y

4. two times a number

5. five times three

6. the sum of nine and two divided by 7

7. 8 times the sum of b and 3

8. 6 divided by the difference of x and 1

9. the difference of nine and five

10. the product of ten and forty