

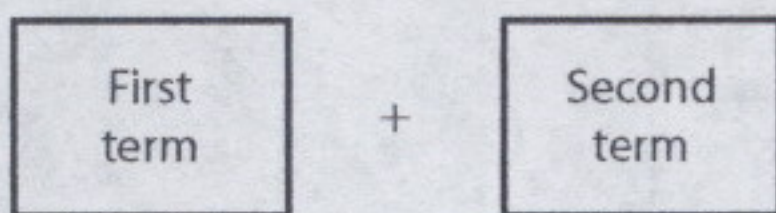
## Write Expressions with Variables

Study the example showing how to write an expression from words. Then solve problems 1–10.

**Example**

Write an expression with the same meaning as “add a number times 2 to 5.”

Find operation words to help you write the expression. Add a number times 2 to 5. This expression will be an addition of two terms.



The first term is 5. The second term is  $2x$ . So the expression is  $5 + 2x$ .

- 1 What does the variable  $x$  in the example represent?

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- 2 The number 2 in the expression  $5 + 2x$  is called the coefficient of  $x$ . How does changing the coefficient to 6 change the meaning of the expression?

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- 3 In the expression,  $5 + 2x$ , how is the first term different from the second term?

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- 4 Write an expression for each word phrase.

- a. Multiply 4 by a number and then subtract 5.

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- b. 15 more than half a number

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### Vocabulary

**variable** a letter that stands for an unknown number.

**constant** a term that is a known number without variables.

**coefficient** a factor of a variable term that is a known number. The coefficient of the term  $4x$  is 4.





**Solve.**

- 5 Connie says an expression for the phrase "10 more than the square of a number" is  $x^2 + 10$ . Sharon says it is  $10x^2$ . Who is correct? Explain.

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- 6 Write an expression for each word phrase.

a. 5 less than the quotient of a number and 2

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b. 5 minus the quotient of a number and 2

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- 7 How are the expressions that you wrote in problem 6 similar? How are they different?

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- 8 Write a word phrase for the expression  $16 \div (x + 4)$ .

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- 9 Write an expression with two terms. One term should have a coefficient with a variable and the other term should be a constant. Name the coefficient, the variable, and the constant in the expression. Then write a word phrase for your expression.

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- 10 Mario says that the expression  $4 + 3n^2$  has four terms: 4, 3,  $n$ , and 2. Is he correct? Explain.

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