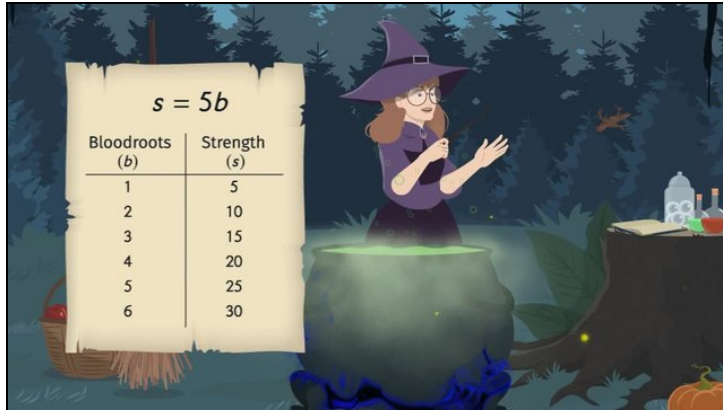




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# Problems in Mathematical Terms



- 1 Determine which of the following are independent or dependent variables, or constant terms.
- 2 Identifying independent and dependent variables to write and evaluate equations.
- 3 Decide which statements about variables and constants are true.
- 4 Identify the dependent and independent variables.
- 5 Find the parts of the story which correspond to different mathematical terms.
- 6 Set up the linear equation.
- + with lots of tips, answer keys, and detailed answer explanations for all of the problems.



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## Determine which of the following are independent or dependent variables, or constant terms.

Match the mathematical terms with the correct examples.

- Constant Term **A**
- Dependent Variable **B**
- Independent Variable **C**
- Variables **D**

- 1** The 3 in  $y = 2x + 3$
- 2** The  $x$  in  $y = 7x + 1$
- 3** The 2 in  $y = 2x + 3$
- 4** The  $y$  in  $y = 6x$
- 5** The  $x$  and  $y$  in  $y = -2x$



## Hints for solving these problems

1  
of 6

**Determine which of the following are independent or dependent variables, or constant terms.**

### Hint #1

In mathematics, a constant term is a term in an algebraic expression that has a value that is constant or cannot change. This is because it stands alone, and does not contain any variables.

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### Hint #2

Independent variables are freely chosen and do not depend on any other variable.

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### Hint #3

Dependent variables are determined by the independent variables.

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## Answers and detailed answer explanations for these problems

1  
of 6

**Determine which of the following are independent or dependent variables, or constant terms.**

**Answer key:** A—1 // B—4 // C—2 // D—5

### 1. Constant Term

- 3 in  $y = 2x + 3$
- 3 is the only term that never changes in the equation and therefore called a **constant term**. No matter what the values  $x$  and  $y$  are, 3 will *never* change.
- The 2, in  $y = 2x + 3$ , is the coefficient of  $x$ .

### 2. Dependent Variable

- The  $y$  in  $y = 6x$ .
- The  $y$  is the **dependent variable** because it changes based on  $x$ .
- For example, if we choose  $x$  to be 2, then  $y = 6(2)$  which is 12.
- If we choose  $x$  to be  $-3$ , then  $y = 6(-3)$  which is  $-18$ .
- Therefore,  $y$  is dependent on the independent variable,  $x$ .

### 3. Independent Variable

- The  $x$  in  $y = 7x + 1$ .
- The  $x$  is called the **independent variable** because we can freely choose its value and it is not determined by any other variable.
- For example, we can choose  $x$  to be 1,  $\frac{1}{2}$ ,  $-2$ , and so on, to find as many values as we want for  $y$ .

### 4. Variables

- The  $x$  and  $y$  in  $y = -2x + 9$ .
- The  $x$  and  $y$  are called **variables** because they can change or vary.