

Variable Power

Use letters to write number stories.

GRADE 6 • 6.EE.B.6

CCSS.Math.Content.6.EE.B.6 "Use variables to represent numbers and write expressions when solving a real-world or mathematical problem; understand that a variable can represent an unknown number, or, depending on the purpose at hand, any number in a specified set."

NAME _____

DATE _____

VARIABLES IN EXPRESSIONS

A variable is a letter that stands for a number. Write an expression to show the operations in the situation, and state a set of values when the situation limits the variable.

WORKED EXAMPLE

A library has b books on each of 6 shelves. Write an expression for the total number of books.

1. One shelf has b books.
2. Multiply b by 6 shelves.
3. Write $6b$.

Answer: $6b$

PRACTICE 5 problems

- 1** Let n be any whole number. Write an expression for 9 more than n .

ANSWER _____

- 2** Let p represent an unknown number of pages. Write an expression for 4 times p .

ANSWER _____

- 3** A ride pass costs \$12, plus \$3 for each ride r . Write an expression for the cost.

ANSWER _____

- 4** A box has m markers. Then 8 markers are used. Write an expression for the markers left.

ANSWER _____

- 5** Tickets cost \$5 each. Let t be the number of tickets. Write an expression for the cost.

ANSWER _____

APPLY IT Show your work

- 1** Rina saves \$5 each week for headphones. Let w be the number of weeks. Write an expression for her savings, then find her savings after 14 weeks.

WORK SPACE

ANSWER _____

- 2** An online game gives 7 coins for each quest. Let q be the number of quests. Write an expression for the coins, then find the coins for 9 quests.

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A club buys x packs of stickers. x can be 1, 2, 3, or 4. Each pack has 7 stickers. Write an expression for the total stickers and list all possible totals.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Let n be any whole number. Write an expression for 9 more than n .	$n + 9$
2	Let p represent an unknown number of pages. Write an expression for 4 times p .	$4p$
3	A ride pass costs \$12, plus \$3 for each ride r . Write an expression for the cost.	$12 + 3r$
4	A box has m markers. Then 8 markers are used. Write an expression for the markers left.	$m - 8$
5	Tickets cost \$5 each. Let t be the number of tickets. Write an expression for the cost.	$5t$

PART 2 • APPLY IT

1. **5w; \$70** The expression is $5w$. Substitute 14 for w : $5(14) = 70$.
2. **7q; 63 coins** The expression is $7q$. Substitute 9 for q : $7(9) = 63$.

CHALLENGE

7x; 7, 14, 21, 28

Accept equivalent forms such as $9 + n$ for $n + 9$ and $3r + 12$ for $12 + 3r$. For the challenge, students should give both the expression and all four totals.