"I Can Write an Algebraic Expression to Represent a Real-World Situation."
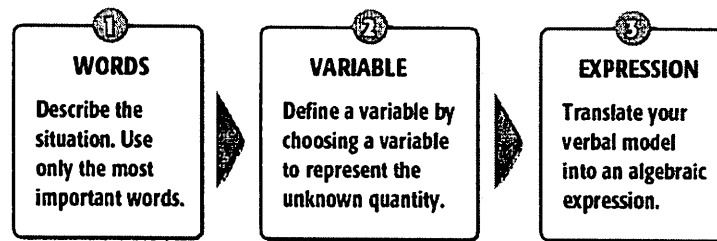# Writing Algebraic Expressions from Situations

① WORDS	② VARIABLE	③ EXPRESSION
Describe the situation. Use only the most important words.	Define a variable by choosing a variable to represent the unknown quantity.	Translate your verbal model into an algebraic expression.

Write the verbal phrase as an algebraic expression.

1. Greg earned Eight dollars more than Ryan earned. Write and expression for the money Greg earned.   **Let *r* represent the money Ryan earned**

Ryan	Greg

2. The sale price when it is ten dollars less than the original price. Write an expression for the sale price.   **Let *p* represent the original price**

Original Price	Sale Price

3. Julie scored 4 fewer points than Ian scored. Write an expression for the points Ian scored.   **Let *j* represent the amount of points Julie scored**

Ian	Julie
	24

If Julie scored 24 points, how many did Ian score?

4. Polly writes for a magazine column for $25 per hour. Write an expression for the amount of money Polly earns.   **Let *h* represent the hours Polly works**

Hours	Money Earned
8	

How much money will Polly earn in 8 hours?

5. The teacher splits the students in her class into 8 equal groups. Write an expression for the amount of students in each group. **Let _k_ represent the amount of students in the class**

Total Students in Class	Students in each Group

6. Bernie had $30 in his bank account. Today, he withdrew _d_ dollars but tomorrow he will deposit $15. Write an expression to represent how much money Bernie will have in his bank account after tomorrow.

_____

7. Jess went to the carnival and bought a ticket for $12. She then paid an additional $2 for every game she played. If Jess played _g_ games at the carnival, write and expression to represent how much money Jess will spend.

_____

8. Shoko and her friends bought three medium drinks and a box of popcorn at the movies. If _p_ represents the price of a medium drink, write and expression to represent the total cost.

_____

9. As a member of a music club, you can order CDs for $15 each. The music club also charges $5 for each shipment.

    a. Write an expression that represents the total cost for n CDs.

_____

    b. Find the total cost of 3 CDs

_____

10. A package of golf balls costs $22 and a package of golf tees costs $4.

    a. Write an expression that represents the total cost for b packages of golf balls and t packages of golf tees.
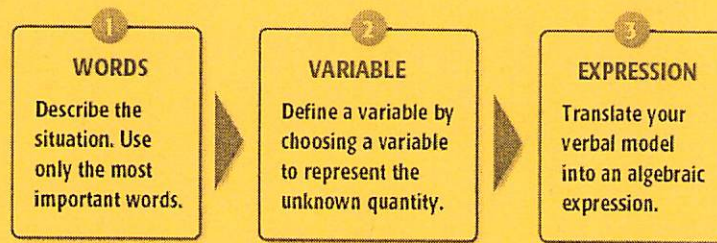
_____

    b. Find the total cost of 2 packages of golf balls and 3 packages of golf tees.

_____

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Writing Algebraic Expressions from Situations

WORDS	VARIABLE	EXPRESSION
Describe the situation. Use only the most important words.	Define a variable by choosing a variable to represent the unknown quantity.	Translate your verbal model into an algebraic expression.

Write the verbal phrase as an algebraic expression.

1. Greg earned Eight dollars more than Ryan earned. Write and expression for the money Greg earned.

Let r represent the money Ryan earned

Ryan	Greg
5	13
20	28
r	r+8

r+8

2. The sale price when it is ten dollars less than the original price. Write an expression for the sale price.

Let p represent the original price

Original Price	Sale Price
55	45
23	13
p	p−10

p−10

3. Julie scored 4 fewer points than Ian scored. Write an expression for the points Ian scored.

Let j represent the amount of points Julie scored

Ian	Julie
20	16
12	8
j + 4	j
28	24

j +4

If Julie scored 24 points, how many did Ian score?

28

4. Polly writes for a magazine column for $25 per hour. Write an expression for the amount of money Polly earns.

Let h represent the hours Polly works

Hours	Money Earned
1	25
2	50
h	h · 25
8	200

h · 25

How much money will Polly earn in 8 hours?

$200

5. The teacher splits the students in her class into 8 equal groups. Write an expression for the amount of students in each group.   **Let _k_ represent the amount of students in the class**

Total Students in Class	Students in each Group
24	3
32	4
K	K ÷ 8

$K \div 8$

6. Bernie had $30 in his bank account. Today, he withdrew _d_ dollars but tomorrow he will deposit $15. Write an expression to represent how much money Bernie will have in his bank account after tomorrow.

$30 - d + 15$

7. Jess went to the carnival and bought a ticket for $12. She then paid an additional $2 for every game she played. If Jess played _g_ games at the carnival, write and expression to represent how much money Jess will spend.

$12 + 2 \cdot g$

8. Shoko and her friends bought three medium drinks and a box of popcorn at the movies. If _p_ represents the price of a medium drink, write and expression to represent the total cost.

Popcorn costs $3.50

$3 \cdot p + 3.50$

9. As a member of a music club, you can order CDs for $15 each. The music club also charges $5 for each shipment.

    a. Write an expression that represents the total cost for n CDs.

$$15 \cdot n + 5$$

    b. Find the total cost of 3 CDs

$$15 \cdot 3 + 5$$
$$45 + 5$$
$$50$$

$$\$50$$

10. A package of golf balls costs $22 and a package of golf tees costs $4.

    a. Write an expression that represents the total cost for b packages of golf balls and t packages of golf tees.

$$22 \cdot b + 4 \cdot t$$

    b. Find the total cost of 2 packages of golf balls and 3 packages of golf tees.

$$22 \cdot 2 + 4 \cdot 3$$
$$44 + 12$$
$$\$56$$

$$\$56$$