



Writing an Equation from a Word Problem

To translate a word problem into an equation, you will write phrases from the problem as mathematical expressions. Replace words that mean equals with an equal sign/symbol. Use other key words to determine operations within each expression.

Rules for Writing an Equation from a Word Problem

1. Read the problem. Write the phrases from the problem as a word based mathematical sentence.
2. Identify unknown values – assign a variable to each unknown.
3. Replace each phrase with a mathematical expression. Connect the expression with operation symbols and equal signs.

Example

CDs sell for \$11 each. Write an equation for the total cost of a given number of CDs.

Step 1	Read the problem. Write the phrases from the problem as a word based mathematical sentence	Total cost is 11 times the number of CDs
Step 2	Identify unknown values – assign a variable to each unknown	Total cost is variable c . The number of CDs bought is variable n .
Step 3	Replace each phrase with a mathematical expression. Connect the expressions with operation symbols and an equal sign.	Total cost = 11 times the number of CDs $C = 11 \cdot n$ OR $c = 11n$

Practice

Write an equation for each situation.

1. DVDs bought on-line cost \$13 each, plus a shipping fee of \$5. Write an equation for the total cost of a given number of DVDs.

Read the problem. Write the phrases from the problem as a word based mathematical sentence

Total cost is 13 _____ the number of CDs, plus _____

Identify unknown values – assign a variable to each unknown

_____ is variable c .

_____ is variable _____.

Replace each phrase with a mathematical expression.

_____ is 13 _____ the number of DVDs + \$5

Connect the expressions with operation symbols and an equal sign.

c _____ 13 _____ +5

$c = 11 \cdot n$ OR $c = 11n$

2. You are buying food for your dog and cat. Dog food costs \$0.48 per can; cat food is \$0.37 per can. Write an equation for the total cost of buying a certain number of cans of food.

3. Bowling costs \$4 per game, plus \$3 rental fee for shoes. Write an equation for the total cost of bowling a certain number of games. _____