

Notes:

Real World Word Problems

Created for you by Ms. Nhotsoubanh!

Example: Alex is buying a guitar that costs \$380. He puts a down payment of \$50 and pays the remaining balance in 3 equal monthly payments. How much is each monthly payment?

Let x = amount per month

Equation: $3x + 50 = 380$

3 months times the amount Down payment

The total amount

Steps to writing an equation

1.) Choose a variable to represent what you are looking for. That is your let statement.

Example: Let x = a number
Example: Let y = # of hours

2.) Represent the word relationships with symbols and a variable.

Example 1: Your soccer team plans to rent a bus to go to a professional game. The cost of the trip will be \$555. If the team plans to use the \$72 in its treasury toward the cost, how much will each of the 23 members have to pay? Which equation represents the situation?

Let x = \$ per member

A.) ~~$72x + 23 = 555$~~

B.) $23x - 72 = 555$

C.) $23x + 72 = 555$

D.) ~~$72x - 23 = 555$~~

Handwritten: $23x + 72 = 555$

***Key questions to ask yourself when solving a word problem:

- What does the x represent in this problem? (that is your let statement)
- Is there a **Total** amount of something? (that is usually what the equation is equal to)



Name: Key
Math 7H - Period: _____ Nov. 8

Glue on page 86

Homework Nov. 8

Directions: Show work on page 87 - 89. Calculators are permitted.

- The Jacksons are buying new windows for their house. The total cost of buying the windows and having them installed is \$4,432.50. If the Jacksons paid \$145.50 per window, plus an installation fee of \$2,250, how many windows did they buy?
- Emma is choosing between two health clubs. LA Fitness offers membership for a fee of \$28 plus a monthly fee of \$24. Sunrise Fitness offers membership for a fee of \$49 plus a monthly fee of \$17. After how many months will the total cost of each health club be the same?
- Tyler is paid \$25 per hour at his job. He currently has \$1,250 in his bank account. In order to go on a trip with his friends he needs to have \$2,500. How many hours will he need to work to go on the trip?
- Alana received a \$70 gift card for a coffee shop. She used it to buy coffee that cost \$8.66 per pound. After buying the coffee she had \$35.36 left on her gift card. How many pounds of coffee did she buy?
- Kevin's family is moving and needs to rent a van. The moving company charges \$34.99 plus \$0.59 per mile. The bill ends up costing \$148.86. How many miles did Kevin's family drive for?
- Sophia has \$13 in her savings account. She deposits \$7.25 more each week. Max has \$33 in his savings account. He deposits \$5.25 more each week. In how many weeks will the amount of money in the accounts be equal?
- Sam's cell phone plan includes a monthly rate of \$19.95 plus \$0.55 per minute for international calls. The bill is \$95.30. How many minutes were spent on international calls?
- Jordy is having a birthday party at Air Trampoline. If the cost of the bill was \$370, how many people were at the party if Air Trampoline charges \$40 for the use of its party room and \$27.50 for each person to jump for 2 hours?

Review 9. The perimeter of a rectangle is 104 feet. The length is two feet longer than four times the width. Find the length and the width.

Review 10. One number is 6 less than 3 times another number and their sum is 62. Find the numbers.

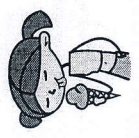
Directions: Write an equation to represent each example.

Example 2: The cost of renting a bicycle is \$4 per hour plus \$2 for maintenance fees. Frankie paid \$34 to rent a bike on a Saturday. How many hours did Frankie pay for?



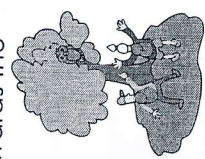
Let $x =$ # of hrs
Equation: $4x + 2 = 34$

Example 3: Natalie and her friends stopped the ice-cream man. Each cone was \$2.25. How many cones can they buy if they only have \$15.00 and they spent \$5.00 altogether on candy.



Let $x =$ # of cones
Equation: $2.25x + 5 = 15$

Example 4: The final cost for the Frost Valley trip last year was \$34,660. Each student paid \$210 and student council donated \$4,840 towards the trip. How many students went on the Frost Valley trip last year?



Let $x =$ # of students
Equation: $210x + 4840 = 34,660$

Your turn: Solve.

Example 5: A rental company rents a luxury car at a daily rate of \$38.50 plus \$0.50 per mile. Connor is given \$100 for a car rental. What is the maximum amount of miles that Connor can drive?

Let $x =$ # of miles
Equation: $0.50x + 38.50 = 100$
$$\begin{array}{r} 0.50x + 38.50 = 100 \\ -38.50 -38.50 \\ \hline 0.50x = 61.50 \\ \hline 0.50 0.50 \\ \hline x = 123 \text{ miles} \end{array}$$