Writing and Solving Equations from Word Problems
Guided Notes

A. A new one-year membership at RecPlex costs $160. A registration fee of $28 is paid up front, and the rest is paid monthly. How much do new members pay each month?

1. Define the variable (What do we not know?): \(m\) - monthly payment
2. Determine the constant (if there is one): 28
3. What is the rate (look for "each", "per", something that will repeat): 12
4. Write the equation and solve:

\[
12m + 28 = 160
\]
\[
-28 \quad -28
\]
\[
12m = 132
\]
\[
12 \quad 12
\]
\[
m = 11.09
\]

B. Juan's cell phone company charges $35 a month for phone service plus $0.50 for each text message. How many text messages does Juan send in a month if his bill was $52?

1. Define the variable: \(t\) - text message
2. Determine the constant: 35
3. What is the rate: 0.50
4. Write the equation and solve:

\[
35 + 0.5t = 52
\]
\[
0.5t = 17
\]
\[
t = 34
\]

C. Friendship's soccer team purchased uniforms and equipment for a total cost of $912. The equipment cost $612, and the uniforms cost $25 each. How many uniforms did the school purchase?

1. Define the variable: \(u\) - # of uniforms
2. Determine the constant: 612 - equipment
3. What is the rate: 25
4. Write the equation and solve:

\[
612 + 25u = 912
\]
\[
25u = 300
\]
\[
u = 12
\]
REAL LIFE EQUATIONS - #1

Directions: Solve each problem below by writing an equation that matches the situation. Then solve your equation to find the solution to the problem.

1) Desiree made 100 cookies this week. She baked 4 more than three times the total she made last week. How many cookies did she bake last week?
   \[ 3x + 4 = 100 \]
   \[ x = \quad \]  

2) Shakira went bowling with her friends. She paid $3 to rent shoes and then $4.75 for each game of bowling. If she spent a total of $21, then how many games did Shakira bowl?

3) This year, Cornell’s class took one more than three times as many field trips as last year's class. This year, Cornell’s class took a total of 7 trips. How many field trips did his class take last year?

4) This week, Jamyra spent a total of 100 minutes studying. This total was 8 more than four times the amount of minutes she studied last week. How many minutes did Jamyra spend studying last week?

5) James earned a total of $900 last week. This total was $10 less than five times the amount he earned last week. How much money did James earn last week?

6) Kaya rented a limousine for prom. There was a one-time charge of $100, plus an hourly rate of $45. Her total cost for the night was $347.50. How many hours did Kaya rent the limo for?

7) At a pizza eating competition, Davonne ate two more than twice as many slices as the runner-up. If Davonne ate 11 slices, then how many slices did the runner-up eat?

8) Anthony received $150 for his birthday this year. This was $10 less than half the amount he received last year. How much money did Anthony receive for his birthday last year?

9) Jasmine is 5 years younger than twice her sister’s age. If Jasmine’s sister is 22 years old. Then, how old is Jasmine?

10) Ronnie charged his customers a flat fee of $25 to fix computers. Then he charged $20 for each hour that he spent fixing the computer. If Ronnie made $175 off of his first customer, how many hours did he spend working?

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