
Essential Question: How can we model situations and solve problems using equations?

Do Now: Set up an equation to solve the following problem.

Cameron volunteers his time at the local library every week. This week he worked five more than twice the number of hours he worked last week. If he worked 17 hours this week, how many hours did he work last week?

Solving Word Problems Algebraically



Remember to always....

- 1) **Read the problem** carefully and make sense of the situation. Be able to describe the situation in your own words.
- 2) **Define all unknowns** (always let x represent what you know the least about).
- 3) Use key words in the problem to **set up an equation** relating all the unknowns. The equation models the situation symbolically.
- 4) **Solve** the equation.
- 5) **Answer the question** and ask yourself..."does my answer make sense?"

1. Dean has \$84 and Mia has \$12. How much money must Dean give to Mia so that Mia will have three times as much as Dean?

2. The sides of a triangle are in the ratio 4:3:1. If the perimeter of the triangle is 72 cm, find the length of each side of the triangle.

3. Mark wants to make trail mix made up of almonds, peanuts and dried cranberries. He wants to mix one part almonds, two parts peanuts, and three parts cranberries. If he wants to create a trail mix totaling 4 pounds, determine how many pounds of each ingredient he needs.



Today's Take Away....

- In order to solve problems using equations, first make sense of the situation and define all _____ in the problem.
- Next, write an _____ that relates all the information in the problem and models the scenario.
- After solving the equation, reread the problem and make sure you have answered the question. Always check to make sure your answer is complete, correct and _____.

It's Your Turn Now...

Seth has one less than twice the number of compact discs (CDs) that Jason has. Rodney has 53 more CDs than Jason has. If Seth gives Jason 25 CDs, Seth and Jason will have the same number of CDs. How many CDs did each of the three boys have to begin with?

Solve each word problem. Show all work on a separate sheet of paper.

1. Amy opens a savings account so that she can buy a car when she turns 16. Her grandmother gives her \$404 to start the account. Every month, she puts in \$86 that she earns from babysitting her neighbor's son. If the car cost \$1600, how long will it be before Amy can buy the car?
2. Keith is hosting a picnic for his friends in the park. The tables that he is going to set up are 5 ft. long. If each person needs 3 ft. to sit comfortably and he wants to invite 15 friends, how many tables does he need?
3. It took the Gibbons family 2 days to travel 925 miles to their vacation home. They traveled 75 miles more on the first day than on the second. How many miles did they travel each day?
4. Leo wants to save \$125 in the next two months. He knows that in the second month he will be able to save \$25 more than during the first month. How much should he save each month?
5. The Roslyn Bulldogs won eight games more than they lost, and there were no ties. If the Bulldogs played 78 games, how many games did they lose?
6. Candice earns \$8.25 an hour and is paid every two weeks. Last week she worked 4 hours longer than the week before. Her pay for these two weeks was \$594. How many hours did she work each week?
7. The length of a rectangle is 5 meters more than its width. The perimeter is 66 meters. Find the dimensions of the rectangle.
8. Alan is 3 times older than Joe. The sum of their ages is 32. Find Alan and Joe's age.
9. One side of a triangle is 7cm more than the shortest side. The third side is 2 times the length of the shortest side. The perimeter of the triangle is 59 cm. Find the lengths of all three sides.
10. The ratio of 7th graders to 8th graders in a club is 8 to 3. If there are fifteen more 7th graders than 8th graders, find the number of students represented in each grade.