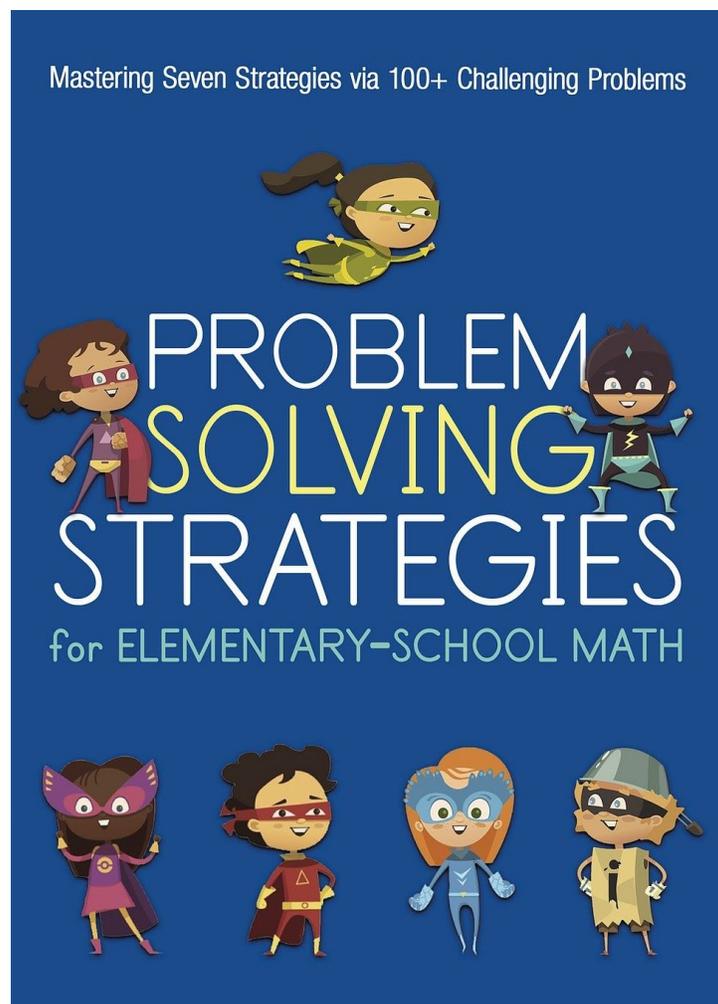


Problem Solving Strategies for Elementary-School Math

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Solutions to Homework Problems



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FIRST STRATEGY: Draw a Picture

- **Homework Problem 1.** 108 tiles.
- **Homework Problem 2.** 2 hours.
- **Homework Problem 3.** 25 meters.
- **Homework Problem 4.** 24 white tiles and 24 blue tiles.
- **Homework Problem 5.** 7 pieces maximum and 4 pieces minimum.

SECOND STRATEGY: Use Reasoning and Logic

- **Homework Problem 1.** Yes it is!
- **Homework Problem 2.** No, because if we add up the number of roads that are connected to each city, we should get twice the number of roads in the country, which would always result in an even number. However if each city is connected to 3 other cities, this sum would be $3 \cdot 7 = 21$ which is an odd number.
- **Homework Problem 3.** 720 hours.
- **Homework Problem 4.** 36 numbers.
- **Homework Problem 5.** Yes, it is possible

THIRD STRATEGY: Create a List or a Table

- **Homework Problem 1.** You can make 9 2-digit numbers.
- **Homework Problem 2.** There are 24 different ways.
- **Homework Problem 3.** 450
- **Homework Problem 4.** 20 times.
- **Homework Problem 5.** 15 different triangles.

FOURTH STRATEGY: Guess, Check, and Adjust

- **Homework Problem 1.** There are 8 such numbers.
- **Homework Problem 2.** A represents 5 and B represents 9.

- **Homework Problem 3.** That number is 36.
- **Homework Problem 4.** A represents 6 and B represents 4.
- **Homework Problem 5.** A represents 4 and M represents 3.

FIFTH STRATEGY: Create an Equation to Solve

- **Homework Problem 1.** The smallest of these numbers is 31.
- **Homework Problem 2.** The original number was 21.
- **Homework Problem 3.** After 14 days they will have the same amount of marbles.
- **Homework Problem 4.** 38 was the original number.
- **Homework Problem 5.** There are 5 bicycles and 15 cars in the parking lot.

SIXTH STRATEGY: Figure Out a Pattern

- **Homework Problem 1.** The 100th letter Sam writes is S.
- **Homework Problem 2.** 300 will appear in column D.
- **Homework Problem 3.** The result will end with a 1.
- **Homework Problem 4.** The greatest area she can make is 625 feet squared.
- **Homework Problem 5.** A 3 digit number is divisible by 11 if (the hundreds digit - the tens digit + the ones digit) is divisible by 11.

SEVENTH STRATEGY: Give an Example

- **Homework Problem 1.** The rectangle is 10 by 15.
- **Homework Problem 2.** C is 6 times larger than b.
- **Homework Problem 3.** If all of the numbers were increased by 2, their average would be 17.
- **Homework Problem 4.** The area of rectangle B is 6 times the area of rectangle A.
- **Homework Problem 5.** $(b-a)/(c-b)=\frac{1}{2}$.