

Problem Solving: Make an Organized List

Todd has given Maclan these clues to guess the identities of one or more 3-digit numbers.

- The ones digit is odd.
- The tens digit is greater than 8.
- The hundreds digit is less than 2.

Use the clues for each digit to make an organized list.

The ones digit is odd.

The odd numbers are 1, 3, 5, 7, and 9.

The tens digit is greater than 8.

The only digit greater than 8 is 9. The tens digit is 9.

The hundreds digit is less than 2.

The digit in the greatest place of a whole number cannot be 0. The hundreds digit is 1.

So, the list would have 191, 193, 195, 197, or 199.

Make an organized list to solve.

1. Barbara, Lisa, and Maria are having their picture taken for the yearbook. List the ways that they can line up in a straight line for the picture. You can use their initials.

2. List all the 3-digit numbers that fit these clues.

- The hundreds digit is greater than 7.
- The tens digit is less than 2.
- The ones digit is the same as the hundreds digit.

3. **Reasoning** In how many ways can you make 10 cents using dimes, nickels, and pennies? List them.

Problem Solving:

Make an Organized List

Make an organized list to solve.

1. List all the 3-digit numbers that fit these clues.

- The hundreds digit is less than 3.
- The tens digit is less than 2.
- The ones digit is greater than 7.

2. List all the 4-digit numbers that fit these clues.

- The thousands digit is greater than 8.
- The hundreds digit is less than 4.
- The tens and ones digits are the same as the thousands digit.

3. Jim and Sarah are running for class president. Cayla and Daniel are running for vice president. What combinations of president and vice president could there be?

4. List the ways that can you arrange the letters A, B, and C.

5. **Reasoning** What is this 3-digit number?

- The hundreds digit is 4 greater than 3.
- The tens digit is 1 more than the hundreds digit.
- The ones digit is 3 less than the tens digit.

6. In how many ways can you make 30 cents using quarters, dimes, or nickels.

4
 6

5
 8