CODE:

```
#include <iostream>
#include <string>
#include <random>
#include <ctime>
#include <sstream>
using namespace std;

// Function to generate a random string for text CAPTCHA
string generateTextCaptcha() {
  string chars = "ABCDEFGHIJKLMNOPQRSTUVWXYZabcdefghijklmnopqrstuvwxyz0123456789";
  string captcha;
  random_device rd;
  mt19937 generator(rd());
  uniform_int_distribution<int> distribution(0, chars.length() - 1);

  for (int i = 0; i < 6; i++) {
    captcha += chars[distribution(generator)];
  }
  return captcha;
}
// Function to generate a simple math CAPTCHA
string generateMathCaptcha() {
  random_device rd;
  mt19937 generator(rd());
  uniform_int_distribution<int> distribution(0, 9);
  int num1 = distribution(generator);
  int num2 = distribution(generator);
  return to_string(num1) + " + " + to_string(num2);
}
// Function to validate the math CAPTCHA
bool validateMathCaptcha(string captcha, int answer) {
  stringstream ss(captcha);
  int num1, num2;
  char op;
```

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  ss >> num1 >> op >> num2;
  return (num1 + num2) == answer;
}

int main() {
  int choice;
  bool continueCaptcha = true;
  cin >> choice;  // Replace scanner with cin for user input

  while (continueCaptcha) {
    cout << "Select CAPTCHA Type:" << endl;
    cout << "1. Text CAPTCHA" << endl;
    cout << "2. Math CAPTCHA" << endl;
    cout << "3. I am not a robot CAPTCHA" << endl;
    cout << "4. Exit" << endl;
    cin >> choice;
    cin.ignore(); // Consume newline character

    switch (choice) {
      case 1: {
        string textCaptcha = generateTextCaptcha();
        cout << "CAPTCHA: " << textCaptcha << endl;
        cout << "Enter the CAPTCHA: ";
        string userInput;
        getline(cin, userInput);
        if (textCaptcha == userInput) {
          cout << "CAPTCHA Verified!" << endl;
        } else {
          cout << "CAPTCHA Verification Failed." << endl;
        }
        break;
      }
      case 2: {
        string mathCaptcha = generateMathCaptcha();
        cout << "CAPTCHA: " << mathCaptcha << endl;
```

```
      cout << "Enter the answer: ";
      int mathInput;
      cin >> mathInput;
      if (validateMathCaptcha(mathCaptcha, mathInput)) {
        cout << "CAPTCHA Verified!" << endl;
      } else {
        cout << "CAPTCHA Verification Failed." << endl;
      }
      break;
    }
    case 3: {
      cout << "Please check the 'I am not a robot' box." << endl;
      cout << "[ ] I am not a robot" << endl;
      cout << "Enter 'yes' to check the box: ";
      string checkInput;
      getline(cin, checkInput);
      if (toupper(checkInput[0]) == 'Y' && checkInput.size() == 3) {
  // Check first character is uppercase 'Y' and length is 3
      } else {
          cout << "CAPTCHA Verification Failed." << endl;
      }
      break;
    }
    case 4:
      continueCaptcha = false;
      cout << "Exiting CAPTCHA Generator." << endl;
      break;
    default:
      cout << "Invalid choice. Please try again." << endl;
      break;
   }
  }
  return 0;
}
```

OUTPUT:

```
Select CAPTCHA Type:
1. Text CAPTCHA
2. Math CAPTCHA
3. I am not a robot CAPTCHA
4. Exit
1
CAPTCHA: Ey5wNE
Enter the CAPTCHA: Ey5wNE
CAPTCHA Verified!
Select CAPTCHA Type:
1. Text CAPTCHA
2. Math CAPTCHA
3. I am not a robot CAPTCHA
4. Exit
2
CAPTCHA: 1 + 8
Enter the answer: 9
CAPTCHA Verified!
Select CAPTCHA Type:
1. Text CAPTCHA
2. Math CAPTCHA
3. I am not a robot CAPTCHA
4. Exit
3
Please check the 'I am not a robot' box.
[ ] I am not a robot
Enter 'yes' to check the box: yes
Select CAPTCHA Type:
1. Text CAPTCHA
2. Math CAPTCHA
3. I am not a robot CAPTCHA
4. Exit
4
Exiting CAPTCHA Generator.
```