1)

#include <iostream>

#include <cmath>

using namespace std;

int main() {

double radius, base, height, length, width, area;

const double pi = 3.14159;

int choice;

cout << (" Geometry Calculator\n\n");

cout << ("1. Calculate the Area of a Circle.\n");

cout << ("2. Calculate the Area of a Rectangle.\n");

cout << ("3. Calculate the Area of a Triangle.\n");

cout << ("4. Quit.\n\n");

cout << ("Enter Your Choice: ");

cin >> choice;

switch (choice) {

case 1:

cout << "What is the radius of the circle?";

cin >> radius;

area = pi \* pow(radius, 2);

cout << "The area of the circle is " << area << ".";

break;

case 2:

cout << "What is the length of the rectangle?";

cin >> length;

cout << "What is the width of the rectangle?";

cin >> width;

area = length \* width;

cout << "The area of the rectangle is " << area << ".";

break;

case 3:

cout << "What is the base of the triangle?";

cin >> base;

cout << "What is the height of the triangle?";

cin >> height;

area = 0.5 \* base \* height;

cout << "The area of the triangle is " << area << ".";

break;

case 4:

cout << "You have chosen to quit the program. :(";

break;

default:

cout << "Please enter a valid option from the menu!!!\n";

cout << "Valid options include 1 - 4.";

}

system("pause>nul");

return 0;

}

2)

#include <iostream>

#include <iomanip>

using namespace std;

int main() {

int choice;

double feet, time;

cout << " Mediums Available:\n\n";

cout << "1. Air\n";

cout << "2. Water\n";

cout << "3. Steel\n\n";

cout << "Please choose an option from the menu: ";

cin >> choice;

cout << endl;

cout << "Enter the number of feet the sound wave will travel: ";

cin >> feet;

cout << endl;

switch (choice) {

case 1:

time = feet \* 1100;

cout << "A soundwave traveling through Air at a distance of " << feet;

cout << " feet, will take about " << fixed << showpoint << setprecision(4);

cout << time << "seconds.";

break;

case 2:

time = feet \* 4900;

cout << "A soundwave traveling through Water at a distance of " << feet;

cout << " feet, will take about " << fixed << showpoint << setprecision(4);

cout << time << "seconds.";

break;

case 3:

time = feet \* 16400;

cout << "A soundwave traveling through Steel at a distance of " << feet;

cout << " feet, will take about " << fixed << showpoint << setprecision(4);

cout << time << "seconds.";

break;

default:

cout << "Invalid choice!!!\n Please enter a valid number.";

}

system("pause>nul");

return 0;

}