Arithmetic Problems

1. Write a program that will prompt the user for three real numbers and computes their average. Display the average to the user.

```
C:\_DMIT_New\_CPSC1012\Lessons\02_SequenceStructure\Arithmetic-1\bin\Debug\Arithmetic-1.exe
Enter 1st number: 2
Enter 2nd number: 7
Enter 3rd number: 11
The average of 2, 7 and 11 is 6.66666666666667
```
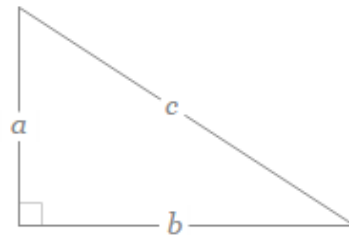
2. Using your knowledge of data types, modify the program you wrote for Question 1 so that it will round the mean average to two decimal places.

```
C:\_DMIT_New\_CPSC1012\Lessons\02_SequenceStructure\Arithmetic-2\bin\Debug\Arithmetic-2.exe
Enter 1st number: 2
Enter 2nd number: 7
Enter 3rd number: 11
The average of 2, 7 and 11 is 6.67
```

3. The Pythagorean Theorem can be used to find the length of the hypotenuse of a right triangle. Write a program that can solve for the hypotenuse once provided with the height and base of the right triangle. Use the following information:

Right angled triangle

$$c = \sqrt{a^2 + b^2}$$

```
C:\_DMIT_New\_CPSC1012\Lessons\02_SequenceStructure\Arithmetic-3\bin\Debug\Arithmetic-3.exe
Enter the height of the triangle: 9
Enter the base of the triangle: 15
The hypotenuse is 17.4928556845359
```

4. Write a program that will prompt the user for a three-digit whole number. The program will then calculate the sum of the digits of the number, and then display both the number and its digit sum. (i.e., 123 -> sum = 6)

```
C:\_DMIT_New\_CPSC1012\Lessons\02_SequenceStructure\Arithmetic-4\bin\Debug\Arithmetic-4.exe
Enter a 3 digit whole number: 456
The sum of the digits is 15
```