Math Class Methods

Return Type	Method Name	Description	Input Parameter types
`int`	`abs`	Returns the absolute value of an `int` value.	`(int a)`
`double`	`cbrt`	Returns the cube root of a `double` value.	`(double a)`
`double`	`ceil`	Returns the smallest (closest to negative infinity) `double` value that is greater than or equal to the argument and is equal to a mathematical integer.	`(double a)`
`double`	`cos`	Returns the trigonometric cosine of an angle.	`(double a)`
`double`	`floor`	Returns the largest (closest to positive infinity) `double` value that is less than or equal to the argument and is equal to a mathematical integer.	`(double a)`
`double`	`hypot`	Returns sqrt($x^2 + y^2$) without intermediate overflow or underflow.	`(double x, double y)`
`double`	`max`	Returns the smaller of two `double` values.	`(double a, double b)`
`double`	`min`	Returns the smaller of two `double` values.	`(double a, double b)`
`double`	`pow`	Returns the value of the first argument raised to the power of the second argument.	`(double a, double b)`
`double`	`random`	Returns a double value with a positive sign, greater than or equal to 0.0 and less than 1.0.	`()`
`double`	`rint`	Returns the double value that is closest in value to the argument and is equal to a mathematical integer.	`(double a)`
`double`	`Sin`	Returns the trigonometric sine of an angle.	`(double a)`
`double`	`sqrt`	Returns the correctly rounded positive square root of a double value.	`(double a)`

1. Write a program that asks the user to enter a double value. The program will print that value rounded up to a whole number. Use an appropriate method from the Math class.

```
Please enter a double value: 12.6
Rounded up: 13.0
```

2. Modify your program so that it also prints the value rounded down to a whole number and rounded to the nearest whole number. Use appropriate methods from the Math class.

```
Please enter a double value: 12.51
Rounded up: 13.0
Rounded down: 12.0
Rounded to the nearest whole number: 13.0
```

3. Write a program that will ask the user to enter a double value. The program will then print out the square root and the cube root of that number. Use appropriate methods from the Math class.

```
Please enter a double value: 8
Square root: 2.8284271247461903
Cube root: 2.0
```

4. Write a program that will ask the user to enter the two smaller sides of a right angled triangle. The program should then calculate the size of the other side (hypotenuse). Use an appropriate method from the Math class.

```
Please enter side 1: 9
Please enter side 2: 12
Hypotenuse: 15.0
```

5. Write a method which will take in the three sides of a triangle and will return whether or not it is a right-angled triangle (using Pythagoras theorem). The method should test the third side to see if it's the hypotenuse.

```
Please enter side 1: 3
Please enter side 2: 4
Please enter longest side: 5
Is this right angled: true
```

6. Modify your method from question 5 so that it can take in the sides in any order.

```
Please enter side 1: 5
Please enter side 2: 3
Please enter side 3: 4
Is this right angled: true
```