SHEET 1 SOLUTIONS  
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**GENERAL NOTE**: to **copy** code **from** this PDF document, **copy** **each** **block** **of** **code** separately to **not** lose the code’s formatting, **happy compiling** 😄

1. Review Questions
2. After properly declaring variables, including <cmath> header, the C++ expressions would possibly look like this;  
     
   
3. a) dm = m \* (√ (1 + v/c) / √ (1 - v/c) - 1)  
   b) volume = πr²h  
   c) volume = (4/3) πr³  
   d) p = tan⁻¹ (z/√ (x² + y²))
4. 
5. n=x; means that only the integral part of x will be assigned to n, and the fractional part will be lost. The compiler will give a warning.

While n = (int)(x + 0.5); will guarantee that if the fractional part is less than 0.5, only the integral part will be assigned to n, else if 1 will be added to the integral part. The compiler will not give a warning.

1. 



1. a. will output “4”  
   b. will output “22”
2. a. fname: James , lname: Carter , age: 56  
   b. fname: Lyndon , lname: Johnson , age: 49  
   c. fname: Hodding , lname: Carter , age: 0  
   d. fname: Richard , lname: M, age: 0
3. a. 6.25  
   b. 6  
   c. 12.5  
   d. 1.414  
   e. 3  
   f. “HelloWorld”  
   g. “WorldHello”  
   h. -3  
   i. “el”  
   j. 10
4. Programming Exercises

1.



2.



3.



4.



**Text

Description automatically generated**\*Code written in IDE environment for easier reading and following:

Text

Description automatically generated\*Debug Console:

5.



6.



BE CAREFUL COMPILING THIS CODE ON YOUR MACHINE, THE FUNCTION localtime IS UNSAFE, IT IS PREFERABLE TO USE AN ONLINE COMPILER OR A VIRTUAL MACHINE.