For each question, write a program with comments to perform the required tasks. **(18+2=20 points)**

1. Initialize 3 variables ***x***, ***y*** and ***z*** with values -7.58, 24 and 6.5678 respectively. Print the values of ***x***, ***y*** and ***z***. Evaluate the arithmetic expression using the values ***x***, ***y*** and ***z*** defined above, assign the result to a variable and print the result with a suitable message. **(18+2=20 points)**
2. Ann is planning to purchase some items. The store is having a sale, where if you buy one item the 2nd item (of equal or lower value) is 50% off. The tax on each item is 7%. **(18+2=20 points)**

* Item 1 costs $39.75 before taxes.
* Item 2 costs $65.50 before taxes.
  1. If Ann only buys **Item 2**, what is the total cost of her purchase *after* taxes? Display this value (rounded to the nearest cent) with a suitable message.
  2. If Ann buys **Item 1** and **Item 2**, what is the total cost *after* taxes? Display this value (rounded to the nearest cent) with a suitable message.
  3. If Ann buys **Item 1** and **Item 2,** how much money does Ann save *before* taxes, due to the sale? Display this value (rounded to the nearest cent) with a suitable message.

1. The final velocity *v* of an object is given by the formula , where *u* is the initial velocity, *a* is the acceleration and *t* is the elapsed time. **(13+2=15 points)**
   1. Calculate and print the final velocity of an object with initial velocity of 15 m/s and acceleration of 2.5 m/s2 after *t* = 18 seconds.
   2. If an object starts from rest, how long will it take to reach a final velocity of 100 m/s, if the acceleration is 2.5 m/s2. Display the result rounded to the nearest second.

A sample output for each question is shown below.

A close up of a screen

Description automatically generated