Let's break down and solve each task step by step.

Task 1: Identify Operators and Operands

\*\*1. List the operators and operands from the following expressions:\*\*

a. \*\*a / 10.0 + 3.5 \* c\*\*

- Operators: `/`, `+`, `\*`

- Operands: `a`, `10.0`, `3.5`, `c`

b. \*\*10 % b + 6 / 2\*\*

- Operators: `%`, `+`, `/`

- Operands: `10`, `b`, `6`, `2`

c. \*\*4 - 20 / 3\*\*

- Operators: `-`, `/`

- Operands: `4`, `20`, `3`

d. \*\*3 \* g / 3 + 10 % d\*\*

- Operators: `\*`, `/`, `+`, `%`

- Operands: `3`, `g`, `3`, `10`, `d`

Task 2: Output of Statements

\*\*2. Write the output of the following statements:\*\*

a. \*\*10 / 3\*\*

- Output: `3.3333333333333335` (floating-point division)

b. \*\*10 // 3\*\*

- Output: `3` (integer division)

c. \*\*10.0 / 2\*\*

- Output: `5.0` (floating-point division)

d. \*\*int(14.3)\*\*

- Output: `14` (converts float to integer by truncating the decimal part)

e. \*\*float(int(13.13))\*\*

- Output: `13.0` (converts the integer 13 to a float)

f. \*\*int(float(13.13))\*\*

- Output: `13` (converts 13.13 to float and then back to integer, truncating the decimal part)

g. \*\*int(float(13))\*\*

- Output: `13` (converts the integer 13 to float and then back to integer, which remains 13)

Task 3: Evaluate Expressions

\*\*3. Evaluate the following expressions:\*\*

a. \*\*4.0 / 10.0 + 3.5 \* 2\*\*

- Evaluation: `4.0 / 10.0` = `0.4`, `3.5 \* 2` = `7.0`

- Output: `0.4 + 7.0` = `7.4`

b. \*\*10 % 4 + 6 / 2\*\*

- Evaluation: `10 % 4` = `2`, `6 / 2` = `3.0`

- Output: `2 + 3.0` = `5.0`

c. \*\*(4 - 20 / 3) \*\* 3\*\*

- Evaluation: `20 / 3` ≈ `6.6667`, `4 - 6.6667` ≈ `-2.6667`

- Output: `(-2.6667) \*\* 3` ≈ `-18.96296296296296`

d. \*\*(4.5 - 5.0) + 7 \* 3\*\*

- Evaluation: `4.5 - 5.0` = `-0.5`, `7 \* 3` = `21`

- Output: `-0.5 + 21` = `20.5`

e. \*\*3 \* 10 / 3 + 10 % 3\*\*

- Evaluation: `3 \* 10` = `30`, `30 / 3` = `10.0`, `10 % 3` = `1`

- Output: `10.0 + 1` = `11.0`

Task 4: Evaluate Boolean Expressions

\*\*4. Evaluate the following expressions:\*\*

a. \*\*3 < 4\*\*

- Output: `True`

b. \*\*7.6 <= 9\*\*

- Output: `True`

c. \*\*4 == 7\*\*

- Output: `False`

d. \*\*8 != 4 // 2\*\*

- Evaluation: `4 // 2` = `2`

- Output: `8 != 2` = `True`

Task 5: Evaluate Logical Expressions

\*\*5. Evaluate the following expressions:\*\*

a. \*\*23 > 12 and 12 > 4\*\*

- Output: `True and True` = `True`

b. \*\*12 > 23 and 12 > 4\*\*

- Output: `False and True` = `False`

c. \*\*23 > 12 or 4 > 12\*\*

- Output: `True or False` = `True`

d. \*\*23 > 45 or 4 > 12\*\*

- Output: `False or False` = `False`

e. \*\*23 > 45 and 12 > 4\*\*

- Output: `False and True` = `False`

f. \*\*not (23 > 12) and 12 > 4\*\*

- Evaluation: `not (23 > 12)` = `not True` = `False`

- Output: `False and True` = `False`

Task 6: Check Answers in Python

You can check your answers by entering the expressions into a Python interpreter. Here's an example session:

```python

Task 2

print(10 / 3) 3.3333333333333335

print(10 // 3) 3

print(10.0 / 2) 5.0

print(int(14.3)) 14

print(float(int(13.13))) 13.0

print(int(float(13.13))) 13

print(int(float(13))) 13

Task 3

print(4.0 / 10.0 + 3.5 \* 2) 7.4

print(10 % 4 + 6 / 2) 5.0

print((4 - 20 / 3) \*\* 3) -18.96296296296296

print((4.5 - 5.0) + 7 \* 3) 20.5

print(3 \* 10 / 3 + 10 % 3) 11.0

Task 4

print(3 < 4) True

print(7.6 <= 9) True

print(4 == 7) False

print(8 != 4 // 2) True

Task 5

print(23 > 12 and 12 > 4) True

print(12 > 23 and 12 > 4) False

print(23 > 12 or 4 > 12) True

print(23 > 45 or 4 > 12) False

print(23 > 45 and 12 > 4) False

print(not (23 > 12) and 12 > 4) False

```

By running the above code, you can verify the correctness of the answers provided.

# Program to calculate the sum, difference, and product of two integers

# Assigning values to variables

num1 = 10

num2 = 5

# Calculating sum, difference, and product

sum\_result = num1 + num2

difference\_result = num1 - num2

product\_result = num1 \* num2

# Displaying the numbers and results

print("The first number is:", num1)

print("The second number is:", num2)

print("Sum:", sum\_result)

print("Difference:", difference\_result)

print("Product:", product\_result)

# Program to calculate the product of two floating point numbers

# Prompting user to enter two floating-point numbers

num1 = float(input("Enter the first floating-point number: "))

num2 = float(input("Enter the second floating-point number: "))

# Calculating the product

product\_result = num1 \* num2

# Displaying the numbers and result

print("The first number is:", num1)

print("The second number is:", num2)

print("Product:", product\_result)