Student Activity: Arithmetic Operator Precedence and Associativity

1. Evaluate the Expression

Question:
Given the expression
`3 + 4 * 2 ** (1 + 1)`, evaluate it step by step and provide the final result.

Example Code:

```
result = 3 + 4 * 2 ** (1 + 1)
#3 + 4 * 2 ** 2
# 3 + 4 * 4
#3 + 16
print(result) # 19
```

2. Predict the Output

Question:
What will be the output of the following code snippet?

```
a = 5
b = 2
result = a + b * 3
print(result) # 11
```

3. Associativity of Operators

Question:

Explain how the associativity of the subtraction operator affects the result in the following expression:

```
result = 10 - 5 - 2
```

4. Combined Operators

Question:

Determine the output of the following Python expression:

```
result = (2 + 3) * (4 - 1) ** 2 // 5 % 3
# 5 * 3 ** 2 // 5 % 3
# 5 * 9 // 5 % 3
# 45 // 5 % 3
# 9 % 3
#0
print(result)
```