

# Solution 02: Python Basic Arithmetic (Kids Version)

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## 1) `int` or `float` ?

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- `type(a)` is `<class 'int'>`
  - `type(b)` is `<class 'float'>`
  - `type(c)` is `<class 'float'>`
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## 2) Write code: add and subtract

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```
x = 12
y = 5

print(x + y)
print(x - y)
```

Outputs: `17` then `7`.

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## 3) What does it print? (two lines)

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```
x = 10
y = 4

print(x - y)
print(x + y - 3)
```

Output:

6  
11

## 4) Word problem: game points

- Points after losing  $7 : 20 - 7 = 13$
- Final points after winning  $5 : 13 + 5 = 18$

## 5) What does it print?

```
stickers_per_page = 6
pages = 4

total_stickers = stickers_per_page * pages
print(total_stickers)
```

Output:

24

## 6) Write code: minutes to seconds

One possible solution:

```
minutes = 7
seconds = minutes * 60
print(seconds)
```

Output: 420

## 7) True division $/$ (always a float)

```
print(9 / 3)
print(7 / 2)
print(1 / 4)
```

Output:

```
3.0
3.5
0.25
```

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## 8) Floor division `//` (whole number part only)

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```
print(9 // 3)
print(7 // 2)
print(1 // 4)
```

Output:

```
3
3
0
```

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## 9) True vs floor division

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```
print(9 / 2)
print(9 // 2)
```

Output:

```
4.5
4
```

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## 10) What does it print?

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```
print(10 % 3)
print(12 % 5)
print(14 % 7)
```

Output:

```
1
2
0
```

## 11) Even or odd?

- $14 \% 2$  is 0 → even
- $17 \% 2$  is 1 → odd

## 12) Sharing marbles

```
marbles = 23
friends = 4

print(marbles // friends) # each friend gets
print(marbles % friends) # left over
```

Output:

```
5
3
```

## 13) What does it print?

```
print(5 + 8 // 3)
print((5 + 8) // 3)
```

Answer:

- $8 // 3$  is 2, so first line is  $5 + 2 = 7$

- $(5 + 8) // 3$  is  $13 // 3 = 4$

Output:

```
7
4
```

## 14) Precedence with \* and %

```
print(10 % 4 + 3 * 2)
print((10 % 4 + 3) * 2)
```

Answer:

- $10 \% 4$  is  $2$
- $3 * 2$  is  $6$
- First line:  $2 + 6 = 8$
- Second line:  $(2 + 3) * 2 = 5 * 2 = 10$

Output:

```
8
10
```

## 15) What does it print?

```
a = 3.9
b = int(a)

c = 5
d = float(c)

print(b)
print(d)
```

Output:

```
3  
5.0
```

## 16) Build a tiny “calculator”

One possible solution:

```
a = 17  
b = 5  
  
print(a + b)    # 22  
print(a - b)    # 12  
print(a * b)    # 85  
print(a / b)    # 3.4  
print(a // b)   # 3  
print(a % b)    # 2
```

Output:

```
22  
12  
85  
3.4  
3  
2
```