



F4.2 Parameters and return values

Functions and structured code · GCSE · OCR J277 2.2.3, AQA 8525 3.2.10,
Edexcel 1CP2 6.6.2 · about 15 min

Name _____

Class _____

Date _____

What this lesson is about

Information in and an answer out; procedures and functions.

- Parameters: information in
- Several parameters
- return: an answer out
- Printing is not returning
- Procedures and functions

Questions

7 marks in all

1. What does this program print?

[1 mark]

```
def double(n):  
    return n * 2  
  
print(double(4))  
print(double(10))
```

2. In `def square(size):`, what is `size`?

[1 mark]

- ☐ A A parameter: it gets its value from the call
- ☐ B An argument
- ☐ C A return value
- ☐ D A comment

3. What does this program print?

[1 mark]

```
def greet(name, times):  
    for i in range(times):  
        print("hi", name)  
  
greet("Ada", 2)
```

4. What does this program print?

[1 mark]

```
def double_print(n):  
    print(n * 2)  
  
def double_return(n):  
    return n * 2  
  
a = double_print(5)  
b = double_return(5)  
print(a, b)
```

5. In `area(20, 30)`, what are 20 and 30?

[1 mark]

- ☐ A Arguments
- ☐ B Parameters
- ☐ C Return values
- ☐ D Local variables

6. What is the difference between a function and a procedure?

[1 mark]

- ☐ A A function returns a value; a procedure does not
- ☐ B A procedure has parameters; a function cannot
- ☐ C A function is written in capitals
- ☐ D There is none in any language

7. What does this program print?

[1 mark]

```
def check(n):  
    if n > 10:  
        return "big"  
    return "small"  
  
print(check(15), check(3))
```

The task: any polygon

Write `polygon(sides, length)` that prints `polygon with <sides> sides` and drives the shape. Call it for a pentagon (5 sides, 20 cm) and then a triangle (3 sides, 20 cm). Finish facing roughly the way you started.

```
# the two lines every program starts with: the commands, then the robot
from bugbot import *
connect()

def polygon(sides, length):
    print("polygon with", sides, "sides")
    # drive it

polygon(5, 20)
```

Plan your program here, then type it in and press Run.



Do it on the robot

www.bugbotlab.com/learn/f4-2-parameters-and-return-values/

The simulator checks it and tells you when it passes. Nothing to install, no account.

Challenges

1. Write `average(a, b, c)` that returns the average of three numbers, and test it with values you can check.
2. Give `polygon` a third parameter for the speed.
3. Write `creep(limit)` that drives in 5 cm steps until the wall is under `limit` cm away, and returns how many steps it took.