

# OPMS 2018 – Exercise 1

## Task 3 (Type Casting) – Solutions

In the following task, you have to answer the given questions. You can note your answers on a piece of paper or in a text document. **You are not allowed to use Eclipse during exercises 1.) – 4.) of this task!**

1. Give one example each for the correct definition of the following data types.

- String `String city = "Aachen";`
- Boolean `boolean door_open = false;`
- Double `double temperature = 32.43;`

2. Give an example for an explicit type cast! `int x = (int) 5.3;`

Define a constant with the name E and assign in the value 2.71828.

```
final double E = 2.71828;
```

3. What is printed by the following statements?

- |                                                           |                    |
|-----------------------------------------------------------|--------------------|
| a. <code>System.out.println(9.0 / 2);</code>              | <code>4.5</code>   |
| b. <code>System.out.println(3 / 9 * 9);</code>            | <code>0</code>     |
| c. <code>System.out.println(9 * 3 / 9);</code>            | <code>3</code>     |
| d. <code>System.out.println(5 * (int) 11 / 4.0);</code>   | <code>13.75</code> |
| e. <code>System.out.println(5 * (int) (11 / 4.0));</code> | <code>10</code>    |
| f. <code>System.out.println((float) 5);</code>            | <code>5.0</code>   |

*Note: For exercises from 5.) – 7.), you are allowed to use Eclipse!*

4. Create a new class "Task3" inside your project called "Exercise One" (use the automatic method stub creation available, to create the main()-method automatically).
5. Implement the expressions from 4.) in the main()-method.
6. Compare the results from your implementation in 5.) with your results from 4.). Did the code behave as you expected it to? If not, try to figure out why!