

Informatics 1, 2. Written Exam (2017-10-30)

1	2	3	4	5	Σ

The answers should fit next to the questions, if you used a separate paper let us know clearly!

1. HTML / CSS (8 points)

- With which attribute can we provide inline CSS formatting? Show an example!
- Provide the HTML code that creates the following unordered list:
 - one,
 - two.
- What's the difference between class and id? Show an example for each (HTML and CSS code as well)!
- Provide the HTML code for the following table:

1	3
4	five 6

The border of the table should be black and the word *five* should be bold.

- Provide the HTML and CSS code for a link, that links to <http://google.com>, make its default color green, make it red if the link is visited.

2. Provide the L^AT_EX codes for the following formulas! (4 points)

a) $x_{12} = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

b) $\int_a^b \sin(x) \cos^n(x) dx = \left[-\frac{\cos^{n+1}(x)}{n+1} \right]_a^b$

c) $\lim_{x \rightarrow 0} (1+x)^{\frac{1}{x}} = e$

d) $\sum_{n=0}^{\infty} \frac{1}{n^2} = \frac{\pi^2}{6}$

3. Provide the L^AT_EX code of the following formula: (2 points)

$$\begin{bmatrix} a & b \\ c & d \end{bmatrix}^{-1} = \frac{1}{ad - bc} \begin{bmatrix} d & -b \\ -c & a \end{bmatrix}$$

4. Provide the L^AT_EX code for the following few lines with the automatically generated reference (1 and 2) using the *align* and the *equation* environments! (2 points)

The equations in ?? and ?? describe an interesting, yet useless mathematical problem.

$$a^3 + b^3 + c^3 = n \quad a, b, c, n \in \mathbb{N} \quad (1)$$

$$10^6 a + 10^3 b + c = n \quad (2)$$

One solution to the above system of equations is $a = 166$, $b = 500$, $c = 333$.

5. Answer the following questions! (4 points)

- a) What are floating objects? Which environments define a floating object?
- b) How do we label a subsection so we can reference its number later?
- c) List at least three document types (L^AT_EX)!
- d) What does `\tableofcontents`, `\listoffigures` and `\listoftables` do?