

# Intensive computation

Prof. A. Massini

Second Midterm Exam – May 31, 2016

- Student's Name -

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- *Matricola* number -

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|-----------------------|--|
| Question 1 (4 points) |  |
| Exercise 1 (4 points) |  |
| Question 2 (5 points) |  |
| Question 3 (3 points) |  |
| Question 4 (4 points) |  |
| Exercise 2 (5 points) |  |
| Question 5 (5 points) |  |
| Question 6 (2 points) |  |
| Total (32 points)     |  |



### Question 1 (4 points) Errors

Give the definition of Forward error and Backward error and explain what the Backward analysis is.

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### Exercise 1 (4 points) Errors

- a) Given  $y'=1,7$  as the approximation of  $\sqrt{3}$ , compute the **absolute** and **relative** forward error and **absolute** and **relative** backward error.

**absolute** forward error

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**relative** forward error

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**absolute** backward error

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**relative** backward error

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- b) Compute the value of the condition number.

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