Student name:	
Student number:	

EXAM Advanced Requirements Engineering (ARE)

April 1st, 2008, 18.30-20.30

Instructions (please read carefully):

- *This is a closed book exam – it is not allowed to consult any material – physical or electronic. Be sure to switch mobile phones off and store them in a closed bag.*
- ***Use this exam to write the answers on questions. Use the available boxes after each question for your answer. Do not write outside the boxes***
- ***Be sure to indicate name and student number on each sheet of paper.***
- *Concise yet complete answers are better than long-winded answers.*
- *You may answer in English on in Dutch.*
- *Grade for this exam is Round (Sumof Points / 10).*
- *Grade for the ARE course is 0.7* this exam + 0.3 * group assignments. On TIS, you will be reported the* final *grade for the ARE course.*
- *This exam has four pages.*

Success!

Group assignment

Before starting with the exam, please indicate below whether you did your group assignment.

Yes/No	I did my assignment
	in year (2006) (tick if appropriate)
	in year (2007) (tick if appropriate)
	in year (2008) (tick if appropriate)

Question 1 Requirements Engineering (34 points)

a) When referring to the "Engineering cycle" (cf. the article of Wieringa*), two different kinds* (or descriptions) of requirements can be distinguished. These two different requirement kinds reflect also two different views on Requirements Engineering as a subject. Mention these two kinds of requirements, and explain them briefly by relating them to the engineering cycle. (17 points)

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1. ...

2. ...

b) We can consider Requirements Engineering as a research topic for which understanding of the *context* is important. Akkermans et al call this '*context inclusiveness*'. Explain what is meant by '*context inclusiveness*' in the field of Requirements Engineering, and why it is so important. (17 points)

Context inclusiveness is ....

Context inclusiveness is important because ...

Question 2 Problem Frames (33 points)

a) Michael Jackson argues that the *top-down functional decomposition* of a problem into sub-problems is not a very good strategy to understand the problem at hand. Explain why, according to Jackson, this is not a good strategy. (16 points)

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Top down functional decomposition of a problem into sub-problem is not a very good strategy for understanding the problem at hand because …

b) Another approach to decompose the problem into smaller pieces, is to develop a series of use-cases for the sub problems. According to Jackson, such a strategy may work well if the use cases describe *independent clearly delimited episodes*. For instance, a clock radio can be described by two use cases: one for the radio and one for the clock. Argue, by using the clock radio example, if use cases are indeed an appropriate way to describe problem-oriented requirements. (17 points)

Question 3 Goal modeling (33 points)

a) The *i** methodology exists of two related models. Name both models, give a short explanation of both models and describe the relationship between the models (20

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points)

- ... :
- ... :
- Relationship :

b) Explain the relevance of goal modeling in the field of requirements engineering. Give two arguments why goal models are relevant and give two arguments why goals models are NOT relevant. (13 points)