

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG
SCHOOL OF LITERATURE LANGUAGE AND MEDIA
LINK (learning, information, networking, knowledge) CENTRE

MODULE 1 – APPLYING DYNAMIC SOFTWARE TOOLS IN ALGEBRA
GROUP ASSIGNMENT 2020

Panel of examiners: Erna Lampen, Alwyn Olivier, Luci Abrahams, Songezo Mata

Total Marks: 30

Due Date: Presentations Friday 20 March + Final written submission Monday 30 March 2020 at 12h00

Assessment criteria [Total 30 marks]

1. **Subject knowledge:** Your own understanding of the concept: 6 marks
2. **Pedagogic knowledge:** Your insight in learner difficulties with the concept: 8 marks
3. **Pedagogic content knowledge of technology:** Your insight into using technology to work with the expected learner difficulties: 8 marks
4. **Technology knowledge:** Your ease and facility with the use/knowledge of the technology: 8 marks

Please choose and present on only ONE question from those below.

QUESTION 1: Exploring the concept of gradient with the use of technology [30 marks]

Instructions

- [1] The assignment is designed for you to apply the knowledge gained in the relevant module to your own school learning environment.
- [2] The assignment should be prepared as a PowerPoint presentation, with no more than 2 pages of written explanatory notes.
- [3] Please answer **ALL** parts of the question. Answer the question directly.
- [4] Do whatever further background research is required to provide high quality work.
- [5] Please reference any applications and any other literature used, at the end of your document, using APA style, see the free online tutorial available at www.apastyle.org.za
- [6] Please read the questions carefully, since each key word provides a particular instruction for successfully completing the task.

Prepare a lesson of 20 minutes to explore the concept of gradient of a function with a Grade 8 or 9 class with the use of technology. Use at least three different representations and at least three different functions.

- 1) **Prepare a few PowerPoint slides to explain to the examiners and your teacher peer audience (5 minutes)**
 - a) **What learners struggle with and what errors they make with regard to the gradient**
 - b) **Why you chose the specific representations and the specific functions**
- 2) **Present your lesson to the peer group audience on Friday 20 March (20 minutes)**
- 3) **Use the feedback from the panel to write a critical reflection on your group presentation, no more than 2 pages of explanatory written notes. You can be creative and record voice notes over your presentation (submission 30 March)**

QUESTION 2: Explore the concept of equation with the use of technology [30 marks]

Instructions

[1] The assignment is designed for you to apply the knowledge gained in the relevant module to your own school learning environment.

[2] The assignment should be prepared as a PowerPoint presentation, with no more than 2 pages of written explanatory notes.

[3] Please answer **ALL** parts of the question. Answer the question directly.

[4] Do whatever further background research is required to provide high quality work.

[5] Please reference any applications and any other literature used, at the end of your document, using APA style, see the free online tutorial available at www.apastyle.org.za

[6] Please read the questions carefully, since each key word provides a particular instruction for successfully completing the task.

Prepare a lesson of 20 minutes to explore the concept of equation with a Grade 8 or 9 class with the use of technology. Use at least three different representations and at least three different equations

- 1) **Prepare a few PowerPoint slides to explain to the examiners and your teacher peer audience (5 minutes)**
 - a) **What learners struggle with and what errors they make with regard to equations**
 - b) **Why you chose the specific representations and the specific equations**
- 2) **Present your lesson to the peer group audience (20 minutes)**
- 3) **Use the feedback from the panel to write a critical reflection on your group presentation, no more than 2 pages of explanatory written notes. You can be creative and record voice notes over your presentation (submission 30 March)**

QUESTION 3: Explore the concept of a graph on the Cartesian plane with the use of technology [30 marks]

Instructions

[1] The assignment is designed for you to apply the knowledge gained in the relevant module to your own school learning environment.

[2] The assignment should be prepared as a PowerPoint presentation, with no more than 2 pages of written explanatory notes.

[3] Please answer **ALL** parts of the question. Answer the question directly.

[4] Do whatever further background research is required to provide high quality work.

[5] Please reference any applications and any other literature used, at the end of your document, using APA style, see the free online tutorial available at www.apastyle.org.za

[6] Please read the questions carefully, since each key word provides a particular instruction for successfully completing the task.

Prepare a lesson of 20 minutes to explore the concept of a graph with a Grade 8 or 9 class with the use of technology. Use at least three different representations and at least three different graphs

- 1) Prepare a few PowerPoint slides to explain to the examiners and your teacher peer audience (5 minutes)**
 - a. What learners struggle with and what errors they make with regard to graphs**
 - b. Why you chose the specific representations and the specific graphs**
- 2) Present your lesson to the peer group audience (20 minutes)**
- 3) Use the feedback from the panel to write a critical reflection on your group presentation, no more than 2 pages of explanatory written notes. You can be creative and record voice notes over your presentation (submission 30 March)**

ENDS.