



จุฬาลงกรณ์มหาวิทยาลัย
Chulalongkorn University
Pillar of the Kingdom

eLearning Forum Asia 2018 (eLFA2018)

National Taipei University of Business

23-25 May 2018

INITIAL EXPERIENCES AND CONCERNS FROM EXAMS WITH INTERNET ACCESS

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Contents

- Introduction to Statics
- Statics Quizzes & Internet Access Exam
- Feedbacks from Students
- Findings and Proposed Items



Introduction to Statics

Internet access exam for the first time

- The **fundamental course** in Mech. Eng. Curriculum
- Basically students **can use any tools (spreadsheet, math programs, etc.) for solving** the flexible cable problem.

Note: Inspired by the NEWS from Professor Eric Mazur

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Statics Quizzes

Course and Evaluation Summary

Lecture	Evaluation		
1. Force Systems	Quiz1	Midterm Examination	Final Examination
2. Equilibrium			
3. Structures	Quiz 2		
4. Distributed loads: Flexible Cable	Quiz 3	11%	
5. Friction			
6. Work & Energy			
7. Model	Project & Report		

$$s = \frac{1}{2} \left(x \sqrt{1 + a^2 x^2} \right) + \frac{1}{2} \left(\frac{1}{a} \ln(ax + \sqrt{1 + a^2 x^2}) \right)$$

Reference



Professor Eric Mazur
Harvard University

He is very famous in the
topic of “peer instruction”

Internet Access Exam

Objectives

- To **reduce the effort** on remembering formula or lecture note
- To improve students’ **analytical skills and decision making skills.**
- To maximize the **usefulness of activity.**



Internet Access Exam

INTERNET ACCESS VS Open Book

	INTERNET ACCESS	OPEN BOOK
1. Friendly user interface (Less stress to the student, etc.)	●	X
2. Less student effort (Remember Equations, etc.)	●	●
3. More analytical questions (solution need to be discovered through exploration – cannot be solved easily by remembering the solutions)	●	X



Internet Access Exam

Exam Procedure

Step 1

- Tools Survey : Personal Computer & Faculty Computer
- Prepare test facilities (Computer room booking, Exam sheet , etc.)

Step 2

- Announcement : Test detail
- Some supplementary readings : Prof. Mazur NEWS

Step 3

- Perform the test

Step 4

- Students feedbacks on the Internet Access Exam

Internet Access Exam: Survey

Tool Surveys



Aj Kuntinee ได้สร้างโพลล์



17 พฤศจิกายน 2017

Quiz 3

ให้นิสิตบอกว่าจะเอา notebook มา

หรือไม่โดยลงชื่อด้วยการเลือกด้านล่าง (ต้องการจำนวนนิสิตไม่น่า notebook มาเพื่อเตรียมให้ภายในเที่ยงวันจันทร์)

- 1 Distributed Load
- 2 Cable (with or without excel)
- 3 Excel

<input checked="" type="checkbox"/>	Use personal notebook		+43
<input type="checkbox"/>	Need computer		+31
<input type="checkbox"/>	เพิ่มเติมเลือก		

41.9%
of students

**PREFER TO use
Faculty Computers**

Internet Access Exam: Announcement

Test Announcement from Instructor



Aj Kuntinee



20 พฤศจิกายน 2017 - กรุงเทพมหานคร

Quiz 3 (Wed 22 Nov): For students who did not bring a personal notebook, go to room 220 (40 seats), computer center at 11:00. Beware of the strict uniform enforcement.

Open book and internet but helps from friends are NOT allowed. No formula are available.

To ensure their students acknowledge the test schedule and respect to rules and regulations

Internet Access Exam: Announcement

Supplementary Readings for Students



Aj Kuntinee ได้แซร์ลิงก์

21 พฤศจิกายน 2017

Here is the inspiration for your quiz 3. This is the first test run in 211. I noted that it was very successful in 432 Mechanics of Materials II last year.



Let students take phones into exams, says Harvard professor

Eric Mazur, father of the 'flipped classroom', says rethinking assessment is the next frontier

TIMESHIGHEREDUCATION.COM

Instructor posted some interesting articles regarding Internet Access Exam.

Internet Access Exam: Test Day

Atmosphere in the exam room



Personal
Computers



Internet Access Exam: Test Day

Atmosphere in the exam room



Internet Access Exam: Test Day

Atmosphere in the exam room



Faculty
Computers



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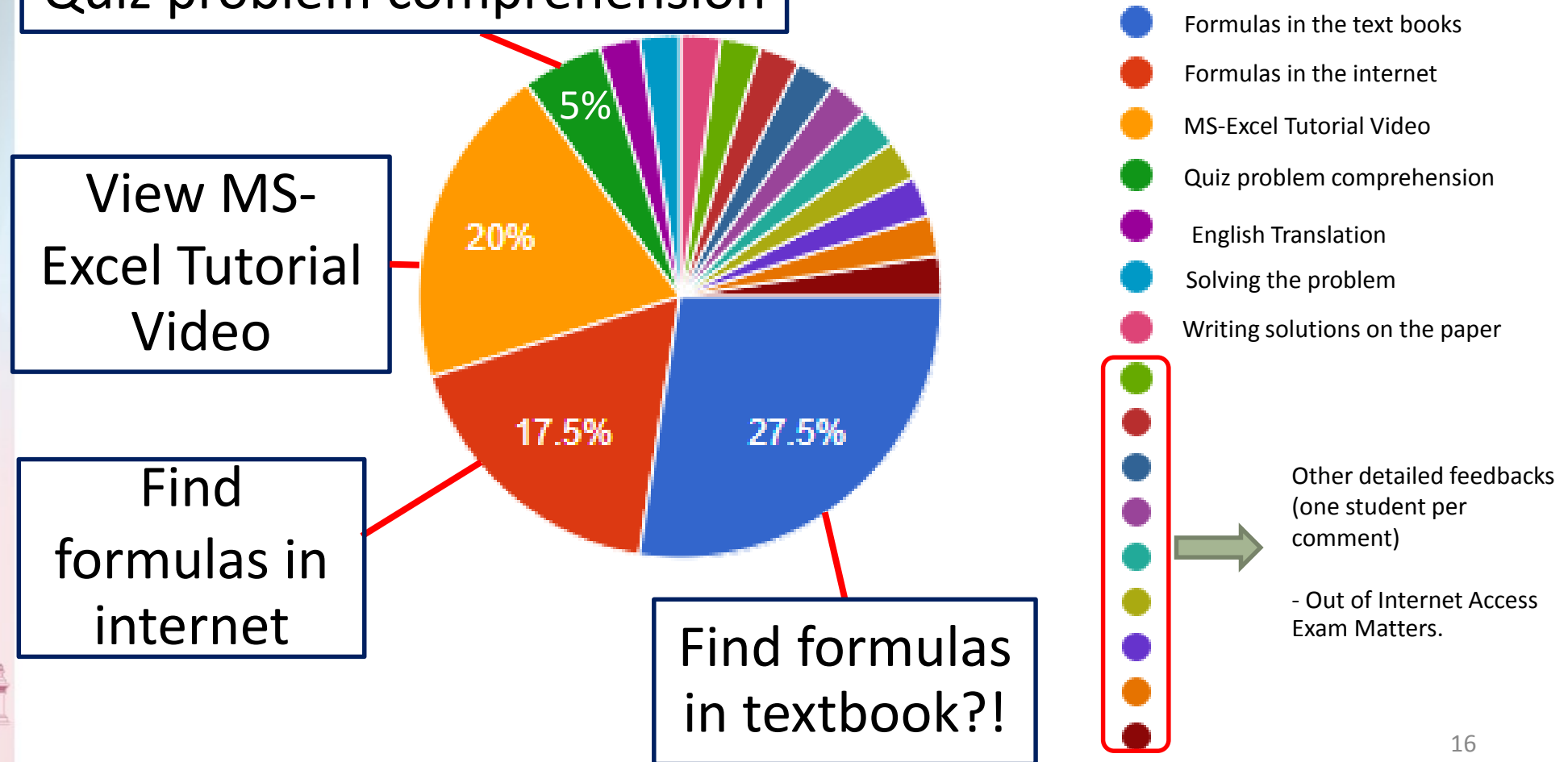


Feedbacks from students

Survey results are taken from 40 students enrolled the course.

1. THE MOST time spent during the exam

Quiz problem comprehension



View MS-Excel Tutorial Video

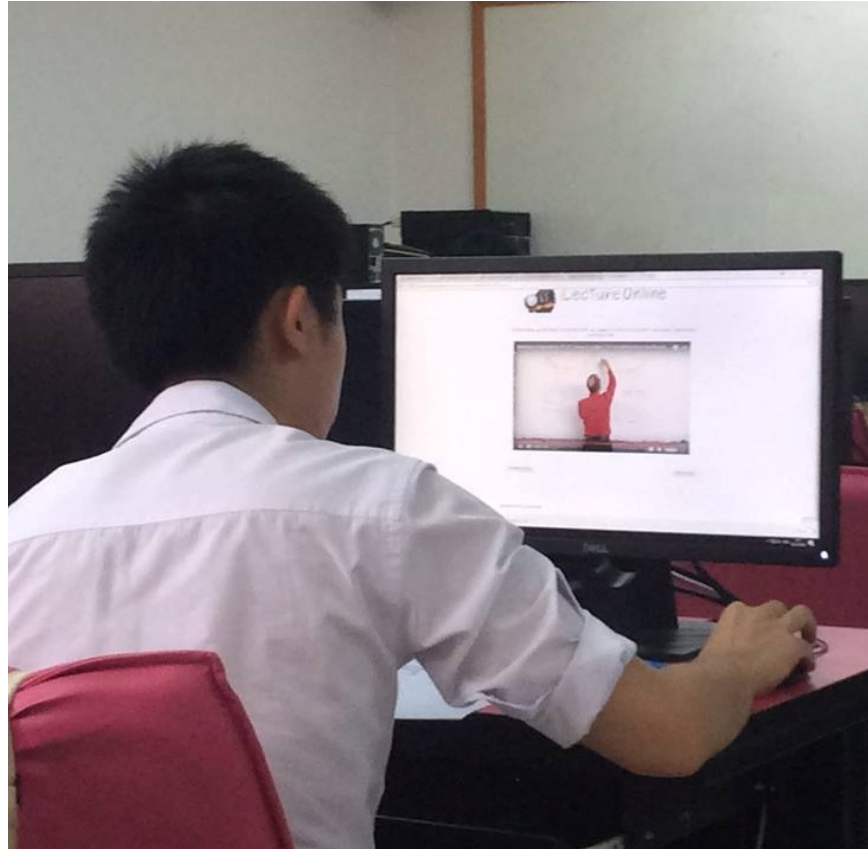
Find formulas in internet

Find formulas in textbook?!

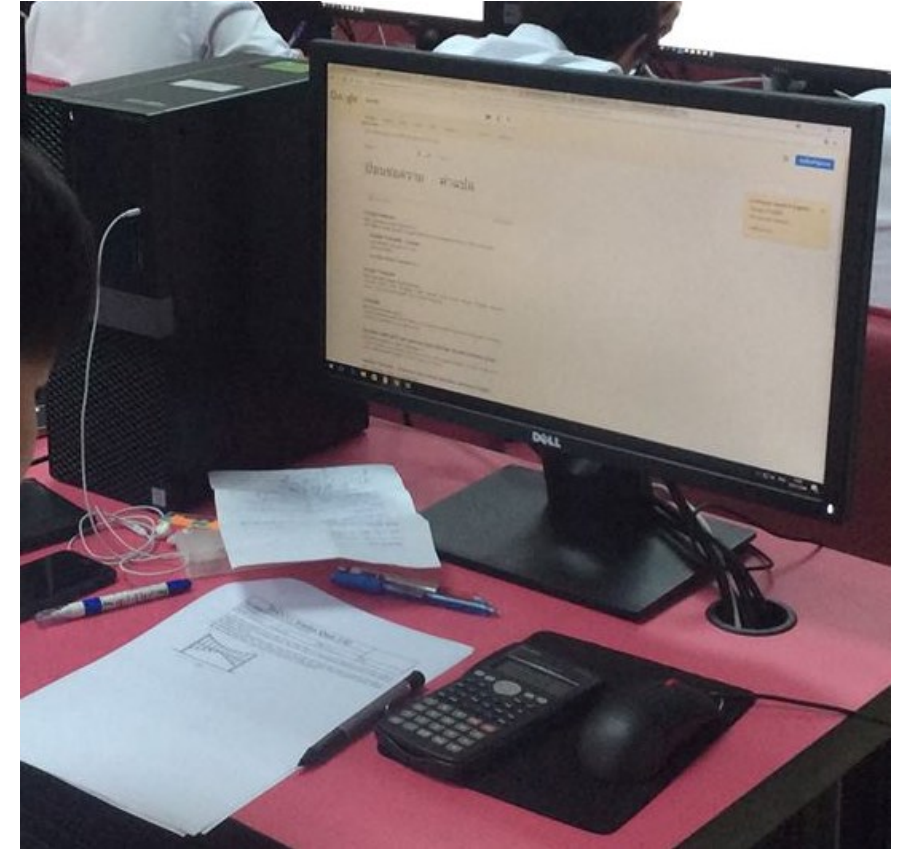


Survey results are taken from 40 students enrolled the course.

Feedbacks from students



Watched video tutorial



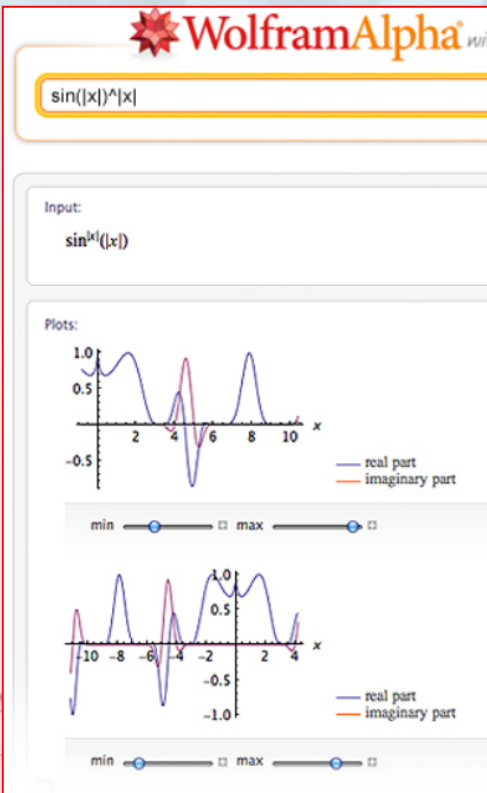
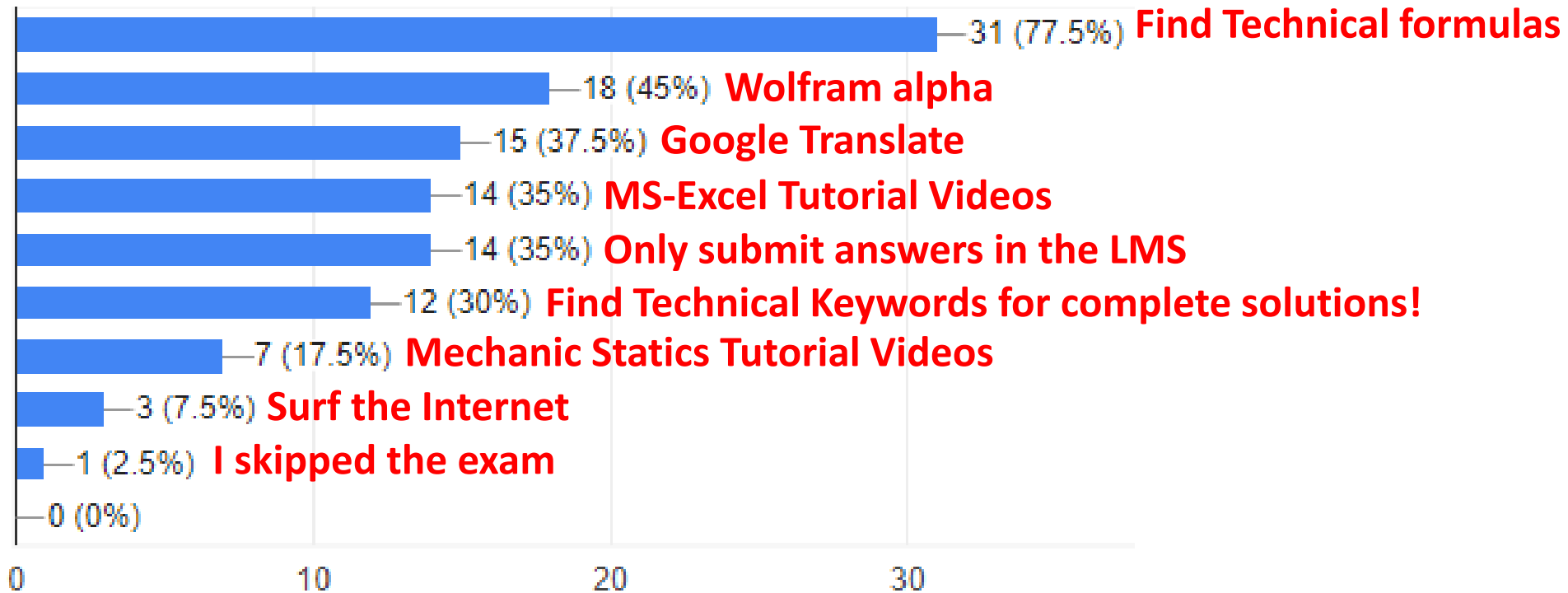
Used google translate



Survey results are taken from 40 students enrolled the course.

Feedbacks from students

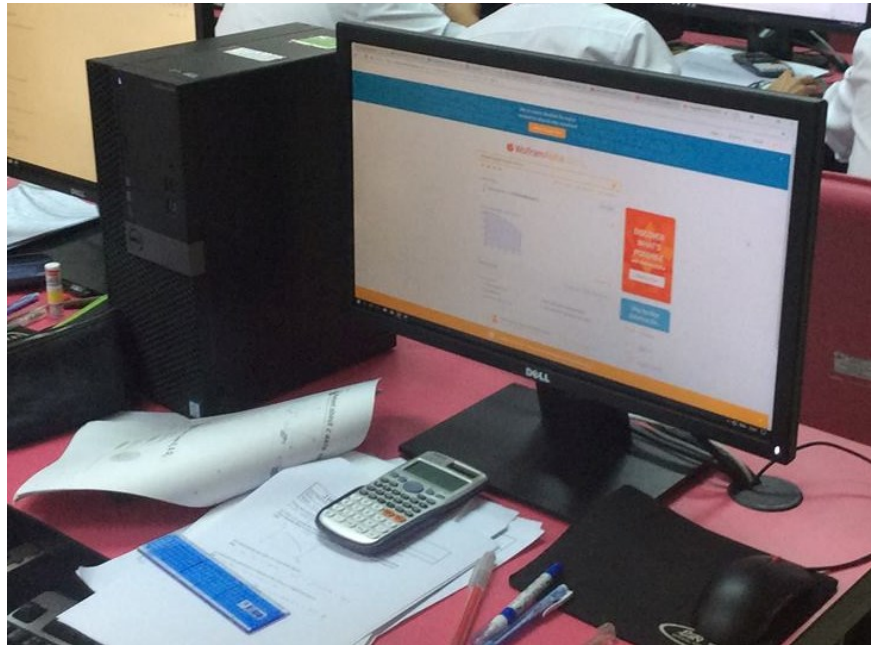
2.The usage of the internet



- TOP 3 the usage of the internet**
1. Find Formulas
 2. Use Wolfram Alpha (Computational Intelligence Software)
 3. Use Google Translate

Survey results are taken from 40 students enrolled the course.

Feedbacks from students



Used Wolfram Alpha for calculation



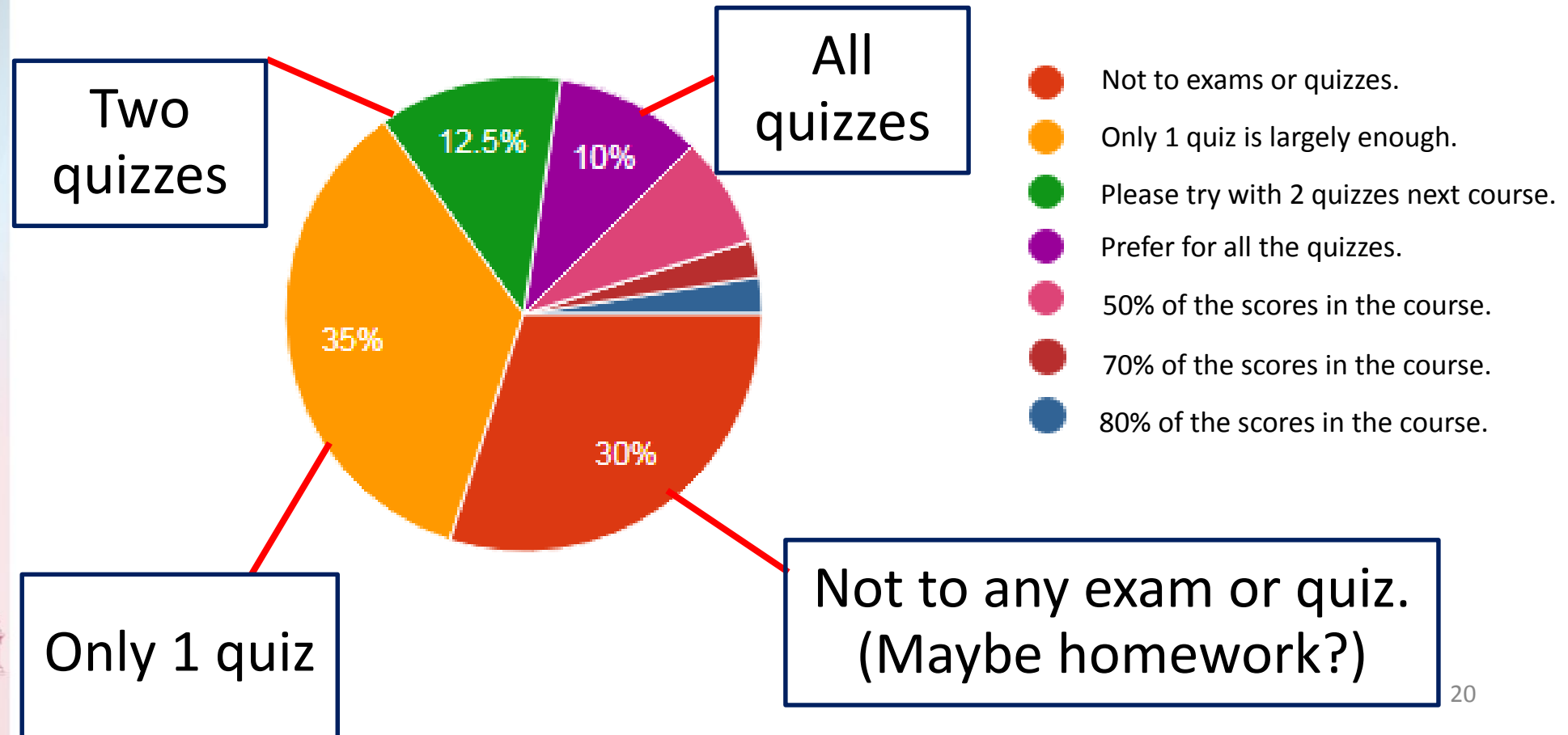
Find formula from the internet



Feedbacks from students

3. How many exams should have internet access ?

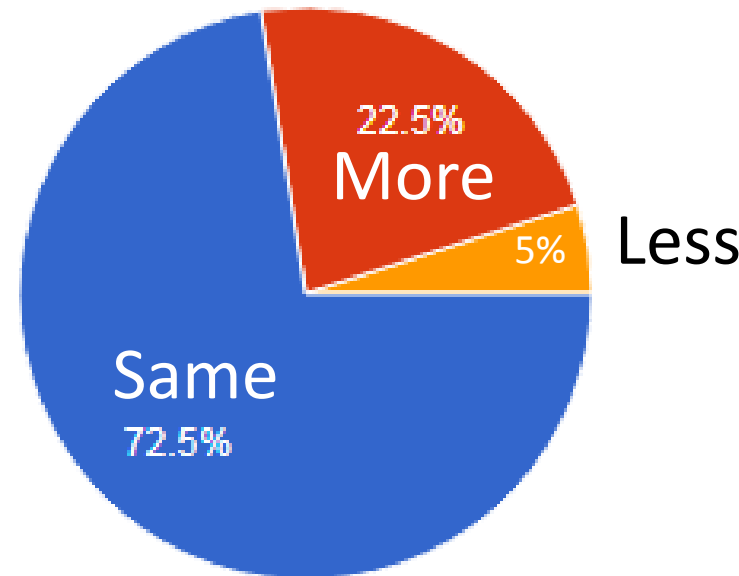
Survey results are taken from 40 students enrolled the course.



Survey results are taken from 40 students enrolled the course.

Feedbacks from students

4. Difference in preparation between **Open Book Exam** and **Internet Access Exam**?



- Exactly the same. Reading textbook is still required.
- More Preparation. Researching more relevant topics for the test.
- Less Preparation. Everything is available in the internet.

Contents

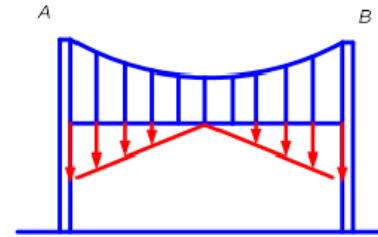
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Finding

- Cheating via personal communication were not be found in this quiz.

A cable AB is suspended from points of equal height that are 20 m apart and subjected a 300-N load in a double triangular distributed horizontally as shown. The central sag is 1 m. Determine the maximum tension in the cable and the length of the cable.
If the solution was obtained numerically, clearly state the method and include the work as a separate worksheet in the submitted spreadsheet file. If the solution was obtained using other means, clearly describe the method, submit the crop screens/URL/links in the courseville answering box as appropriate.



- Wasting Time for ...
 - Google translate

—Searching for the solutions

UNEXPECTED

Insight

- Internet
 - Just a resource, similar to books etc.
- Key point
 - Proper resource selection
 - Internet hindered the efficiency in doing exam (time waste)
 - use unexpected tools (wolfram alpha) may affect the designed outcome



Patheos.com



The sliced pan.com



Proposed Items

- Keep in-mind about cheating, but not too overly anxious
- Inform students that problems are not copied from the internet. They are not available online. Finding solution online is futile.
- Train the proper use of internet resource during exercise first.

Conclusion

Do

- Internet Access in Quiz

Check

- 70% are O.K. with more internet access exam.
- Improperly use of internet
- Lack of skills in English, software, resource selection.
- Students need more training before exam

Act

- More training
- More quizzes





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