



2020

Menunjang pembelajaran daring: umpan balik

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INDUSTRI 4.0

Garis besar revolusi industri

- Industri 1.0: Revolusi energi
 - Industri 2.0: Produksi masal
 - Industri 3.0: Automasi
 - Industri 4.0: Sistem fisik dan *cyber*
-
- Ciri: komunikasi (data) antar dawai (*gadgets*) dan internet
 - Umpan balik (*feedback*)
 - Analitika
 - Pemantauan mandiri
 - Otomatisasi
 - Revolusi data (informasi)!
- } Kecerdasan buatan

PEMBELAJARAN DARING



- Pendidikan sebagai sebuah “industri”
- Prinsip-prinsip industri 4.0 akan semakin kentara
- Perbedaan mendasar: “Sentuhan” manusia akan semakin penting (!)
- Pembelajaran daring (baik langsung maupun tidak) menjadi metode utama dalam periode pandemik (mungkin juga sesudahnya)
- Universitas Cambridge mengalihkan semua kuliah tatap muka menjadi daring untuk 2020/2021

Keuntungan: Kecepatan langkah mandiri dan fleksibilitas

The screenshot shows a web browser displaying a UdeMy course page. The URL is udemy.com/course/business-mathematic/learn/lecture/11949662#overview. The course title is "Business Mathematic for Beginner". The page features a video player with a play button and a sidebar on the right showing the course progress. The sidebar indicates that 1 of 11 lessons is complete. The current section is "Section 1: Basic Algebra", which is 1/2 complete (6 minutes). The lessons listed are:

- 1. Overview (2min) -
- 2. Real Numbers and Algebra (4min) -

Other sections include:

- Section 2: Function (0/4 | 17min)
- Section 3: Matrix (0/1 | 3min)
- Section 4: 4. Calculus (0/4 | 18min)

The bottom of the page shows navigation tabs for "Overview", "Bookmarks", and "Announcements". The text "About this course" is visible at the bottom.

Keuntungan: Kecepatan langkah mandiri dan fleksibilitas

The screenshot shows the Khan Academy interface with a 'Personalize Khan Academy' dialog box open. The dialog is titled 'Personalize Khan Academy' and is divided into two sections: 'Math' and 'Science'. The 'Math' section has a 'See all (17)' link and lists several subjects with checkboxes: Arithmetic, Algebra basics, Differential Calculus, Basic geometry, Trigonometry, Integral Calculus, Pre-algebra, and Statistics and probability (which is checked). The 'Science' section has a 'See all (8)' link and lists: Physics, Biology, Health and medicine, Chemistry, Cosmology and astronomy, Organic chemistry, and Electrical engineering. At the bottom of the dialog, there is a 'Back' link, 'Step 2 of 2' with two progress dots, and a green 'Continue with 1 course' button.

Personalize Khan Academy

Math [See all \(17\)](#)

- Arithmetic
- Algebra basics
- Differential Calculus
- Basic geometry
- Trigonometry
- Integral Calculus
- Pre-algebra
- Statistics and probability

Science [See all \(8\)](#)

- Physics
- Biology
- Health and medicine
- Chemistry
- Cosmology and astronomy
- Organic chemistry
- Electrical engineering

[Back](#) Step 2 of 2 ●● [Continue with 1 course](#)

PEMBELAJARAN DARING

Tantangan

- Beberapa kelemahan yang harus diwaspadai
- Memerlukan persiapan (guru) maupun pencernaan (siswa) lebih lama
- Penyesuaian materi ajaran
- Perlu kejujuran dan disiplin tinggi – konsentrasi mudah terganggu
- Perasaan terkucilkan
- Semakin sulit mengidentifikasi siswa yang tertinggal
- Mudah buat siswa untuk *slip through the cracks*

UMPAN BALIK (*FEEDBACK*)

Meminimalisir dampak negatif

- Umpan balik (*feedback*) menjadi sangat kritikal
- Umpan balik utama: penilaian (*assessment*)
- *Assessment for learning* (penilaian formatif)
- *Assessment of learning* (penilaian summatif)
- Penilaian menjadi lebih sering, dibanding pembelajaran luring (*offline*)
- Perangkat lunak menjadi vital sebagai panggung (*platform*)
- Kecerdasan buatan “tertanam” didalamnya
- Lingkungan pembelajaran maya (*Virtual learning environment or VLE*)

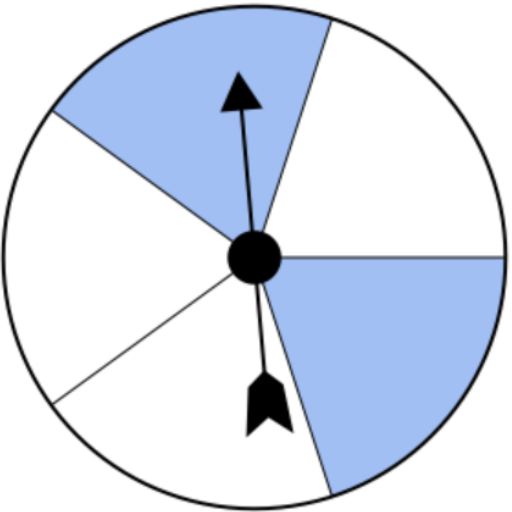
Pembelajaran daring tidak langsung

← → ↻ khanacademy.org/math/statistics-probability/probability-library/basic-theoretical-probability/e/probability_1?mo... ☆ Incognito ⋮

Course Search Khan Academy Donate Arif Cusanto

Simple probability [Go to lesson page](#)

What is $P(\text{shaded sector})$?
If necessary, round your answer to 2 decimal places.



Not quite yet...
Try again, [Get help](#), or [move on](#).

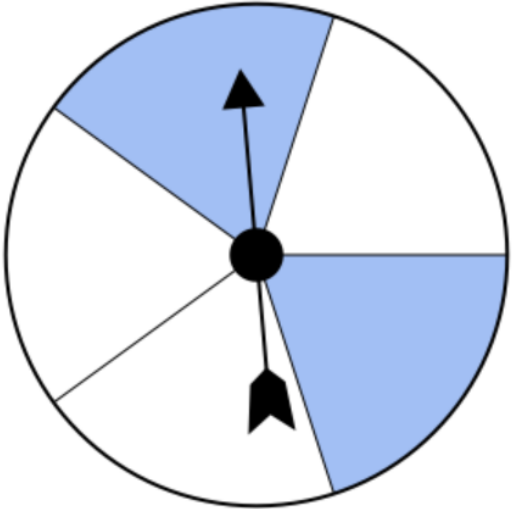
Get 5 of 7 questions to level up to Familiar ● ○ ○ ○ ○ ○ ○ [Try again](#)

Pembelajaran daring tidak langsung

← → ↻ khanacademy.org/math/statistics-probability/probability-library/basic-theoretical-probability/e/probability_1?mo... ☆ Incognito

Simple probability [Go to lesson page](#)

What is $P(\text{shaded sector})$?
If necessary, round your answer to 2 decimal places.



Nice work! ✨
Keep up the great persistence!

Get 5 of 7 questions to level up to Familiar ● ○ ○ ○ ○ ○ ○ [Next question](#)

PEMBELAJARAN DARING LANGSUNG

Umpan balik (*Feedback*)

- Penilaian formatif penting dilakukan di awal, tengah, dan akhir dari pembelajaran
- Penilaian formatif kembali setelah pembelajaran
- Pelibatan di ruang diskusi

The screenshot displays the Minerva LMS interface. At the top, the user 'Arief Gusnanto' is logged in. The main navigation bar includes 'Home', 'Teach', 'Discover', and 'Files'. The current page is titled '18/19(2) MATH3880/MATH5880M Statistics and DNA (MM7936) Discussion Board'. A notification banner at the top of the content area reads: 'The results from this Module for the 2019 Module Evaluation survey have been made available for your analysis.' Below this, the 'Discussion Board' section is visible, with a sub-header: 'Discussions are a good way to encourage students to think critically about your coursework and interact with each others' ideas. You can create discussions around individual module lessons or for your module in general. [More Help](#)'. A 'Create Forum' button is present on the left, and a search bar is on the right. The bottom of the page shows 'No items found.'

HASIL PENILAIAN: DATA

- Semua hasil penilaian tersebut menjadi informasi yang sangat berharga (bagi guru maupun “admin”)
- Dengan kecerdasan buatan, siswa bisa melihat kemajuan studinya
- Demikian juga dengan gurunya
- Dengan melihat data lain, perangkat lunak juga mampu mengidentifikasi siswa yang “beresiko”
- Misal: Data kehadiran

- 18/19(2)
- MATH3880/MATH5880
- M Statistics and DNA (MM7936)
- Announcements
- Staff Information
- Module Information
- Module Catalogue
- Learning Resources
- Reading Lists
- Media
- Assessment 0
- Collaborate 0
- Snapshot Module Survey 0
- My Grades
- School of Maths Student Resources

Performance Dashboard

The Performance Dashboard shows all types of user activity in your module or organisation. [More Help](#)

LAST NAME	FIRST NAME	USERNAME	ROLE	LAST MODULE ACCESS	DAYS SINCE LAST MODULE ACCESS	REVIEW STATUS	ADAPTIVE RELEASE	DISCUSSION BOARD	CUSTOMISE RETENTION CENTRE	VIEW GRADES
[REDACTED]			Student	13-Aug-2019 21:18:26	294	0		0	3/4	
[REDACTED]			Student	01-Jul-2019 22:40:57	337	0		0	3/4	
[REDACTED]			Student	24-May-2019 11:00:03	375	0		0	3/4	
[REDACTED]			Student	26-Jan-2020 12:35:34	128	0		0	3/4	

- 18/19(2)
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- Learning Resources
- Reading Lists
- Media
- Assessment ∅
- Collaborate ∅
- Snapshot Module Survey ∅
- My Grades
- School of Maths Student Resources

Retention Centre

Customise

The Retention Centre helps you discover which students in your module are at risk. You can communicate with struggling students and help them take immediate action for improvement. You can also keep track of patterns over time. [More Help](#)

Students currently at risk

34

STUDENT ▲	MISSED DEADLINES	GRADES ALERT	ACTIVITY ALERT	ACCESS ALERT
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●
[REDACTED]	●	●	●	●

This data table has four columns indicating which students are at risk. You can expand each item to view more details about that particular student.

Students you are monitoring

You are not monitoring anyone yet

Monitor your students to gain insights to their academic progress.



Other information you are monitoring

You are not monitoring any information

Track who's doing well in your module.

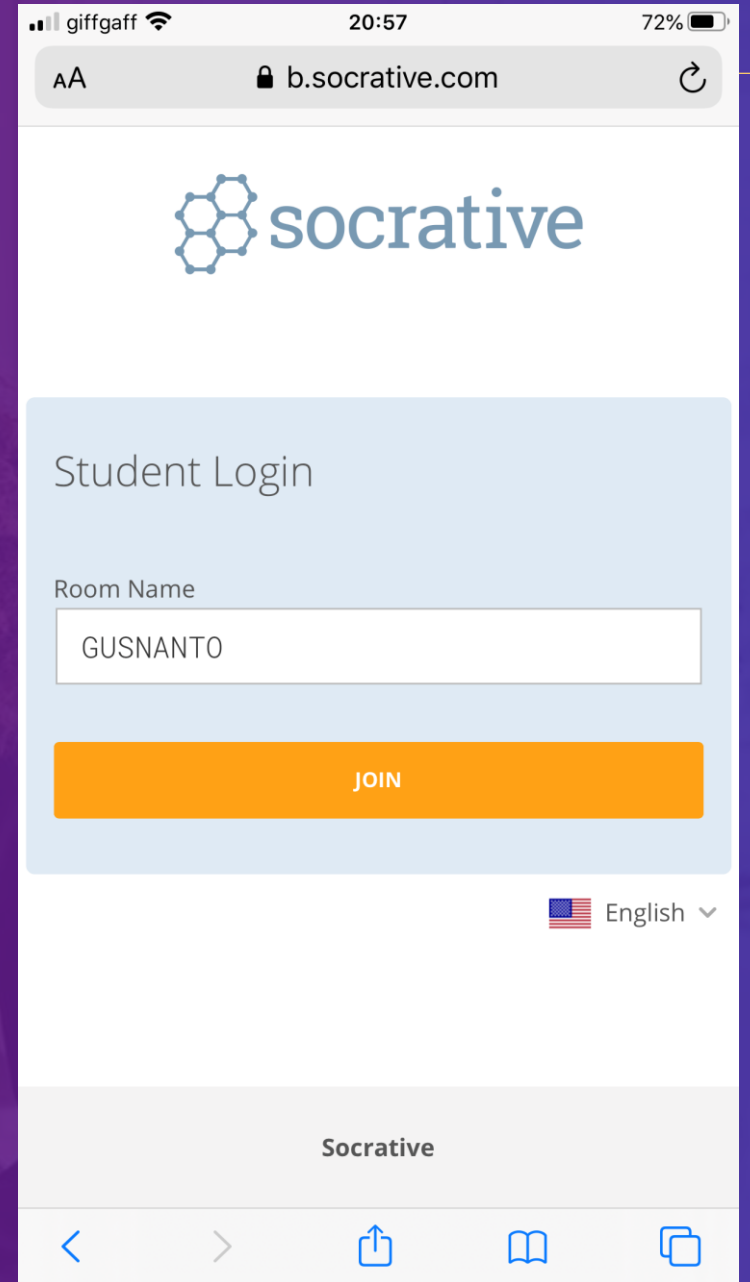
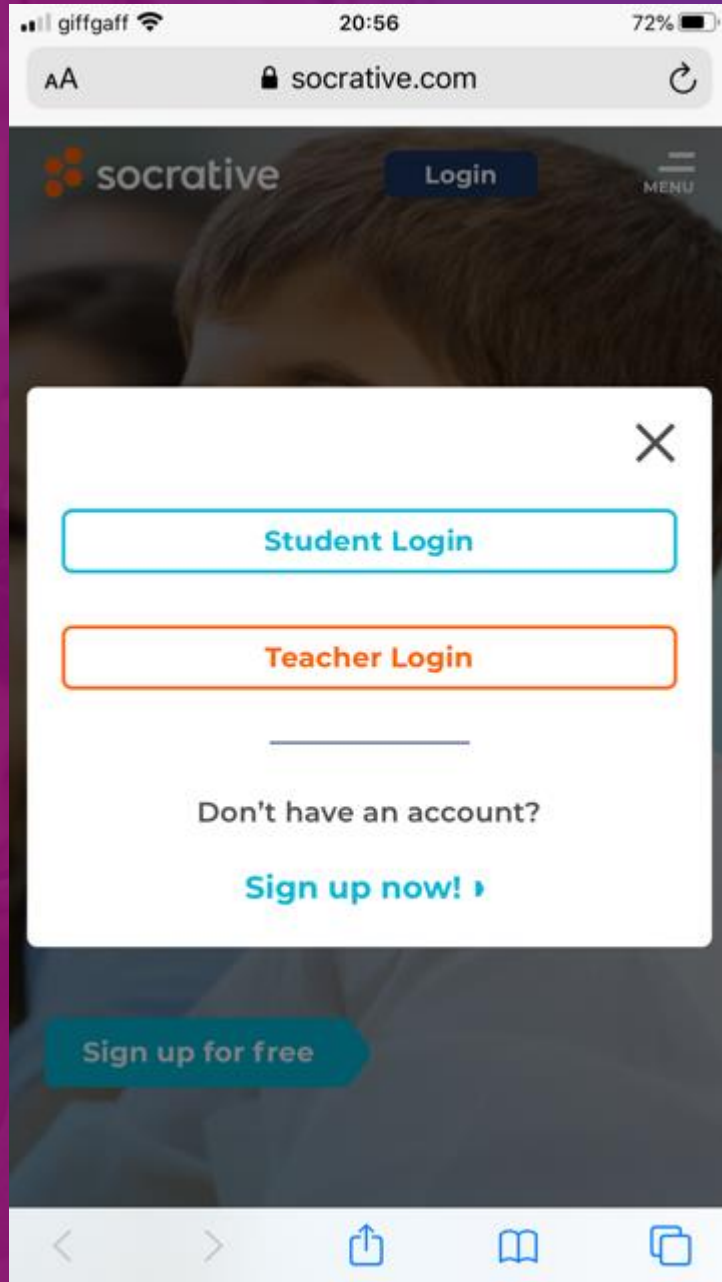
PENUTUP

- Ada banyak hal yang bisa kita ambil dari *Learning Analytics*
- Banyak studi kasus yang menunjukkan perbaikan/kemajuan
- *Engagement score* seringkali dipakai sebagai factor prediksi kesuksesan siswa
- Perangkat lunak menjadi kunci
- Kemampuan menelaah hasil analisa juga diperlukan
- Jangan sampai kita mengasingkan siswa yang tidak mempunyai akses ke teknologi



TERIMA KASIH!

A.GUSNANTO@LEEDS.AC.UK



Numbas

really versatile maths e-assessment



Numbas is an easy way to create online tests. Our free web-based system helps you build the exams you need to challenge your students, complete with videos and interactive diagrams.

[See a demo](#)

NUMBAS

Demo exam

Question 1	Score: 2/2 ✓
Question 2	5.5 marks.
Question 3	1 mark.
Question 4	2 marks.
Question 5	3 marks.
Total	2/13.5

Pause

End Exam

Add the following two fractions together and express as a single fraction over a common denominator.

Express

$$\frac{9}{x+6} - \frac{5}{x+1}$$

as a single fraction.

Input the fraction here: ✓

Input your answer in the form $\frac{(ax+b)}{((cx+d)(ex+f))}$ with no other brackets than those shown.

Click on *Show steps* if you need help. You will lose one mark if you do so.

You will also find a video which goes through a similar example.

Show steps (You will lose 1 mark.)

Score: 2/2 ✓ Show feedback

Submit answer

Score: 2/2 ✓

Try another question like this one

Reveal answers

18/19(2) MATH3880/MATH5880M Statistics and DNA (MM7936)

Media (Open in a new window)

Edit Mode is: ON

The results from this Module for the **2019 Module Evaluation** survey have been made available for your analysis.

[View Results](#)

- 18/19(2) MATH3880/MATH5880 M Statistics and DNA (MM7936)
- Announcements
- Staff Information
- Module Information
- Module Catalogue
- Learning Resources
- Reading Lists
- Media

201819_MAPS_MM7936 : MATH3880/MATH5880M Statistics and DNA
Catalog for MATH3880/MATH5880M Statistics and DNA (201819_MAPS_MM7936)

Search

Sort By Date: new..old

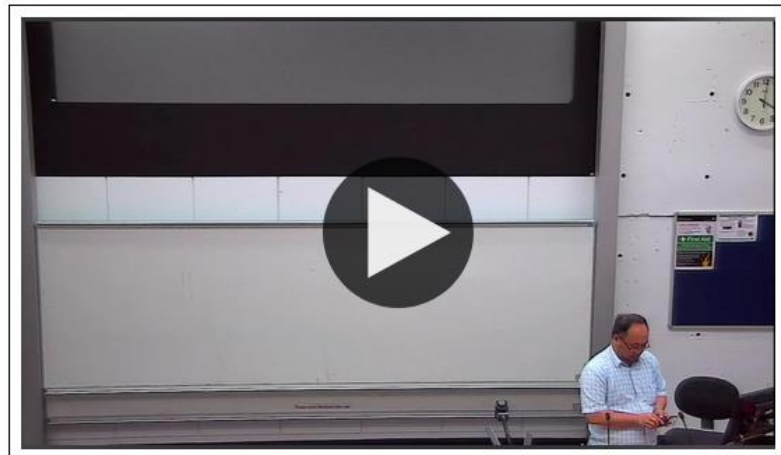
1 - 10 of 27

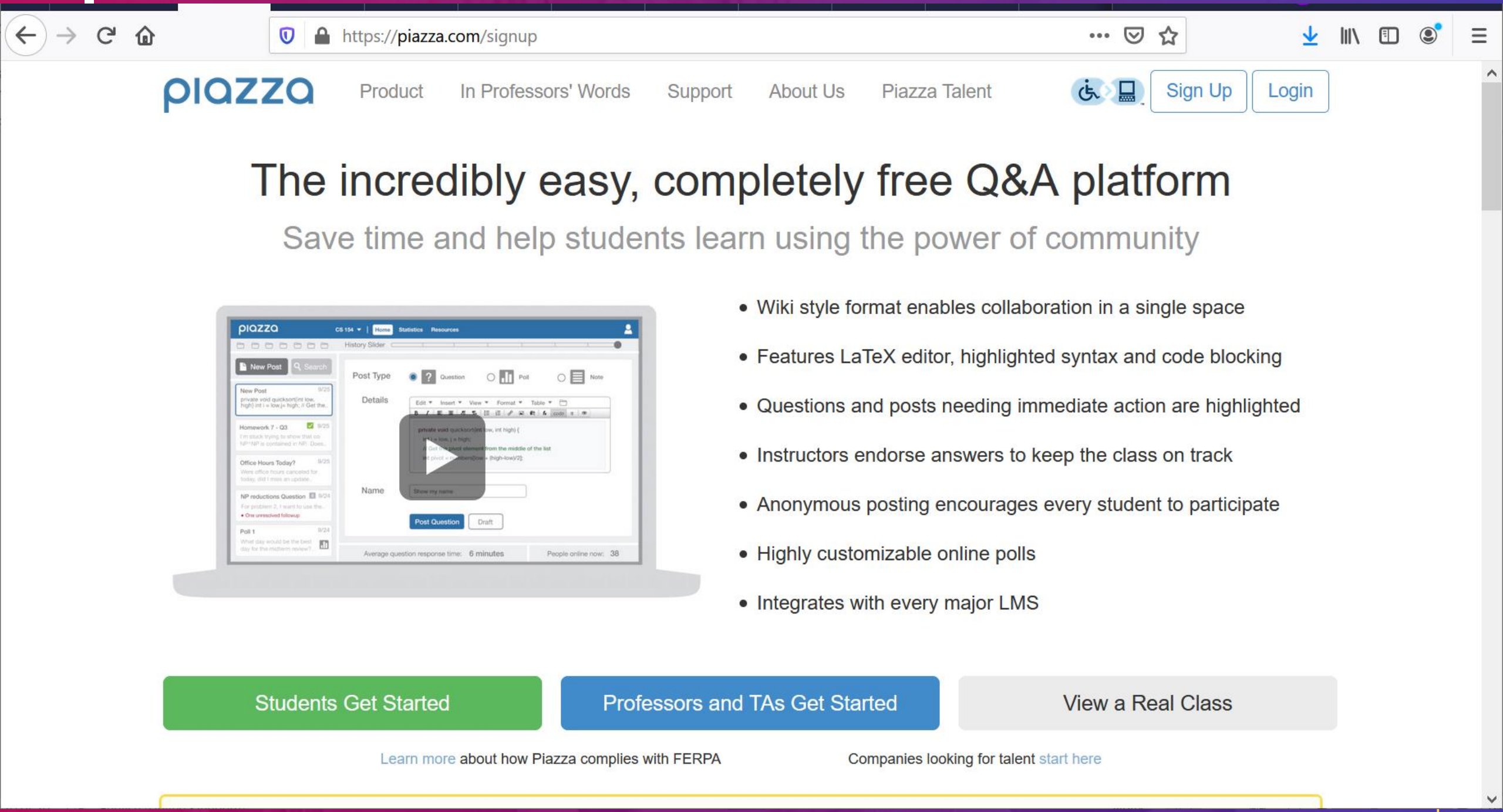
MATH388001 MATH5880M01 07/05/2019 17:00 Roger Stevens LT 23 (8.23)_5/7/2019

[Info](#) | [Watch](#)

University of Leeds

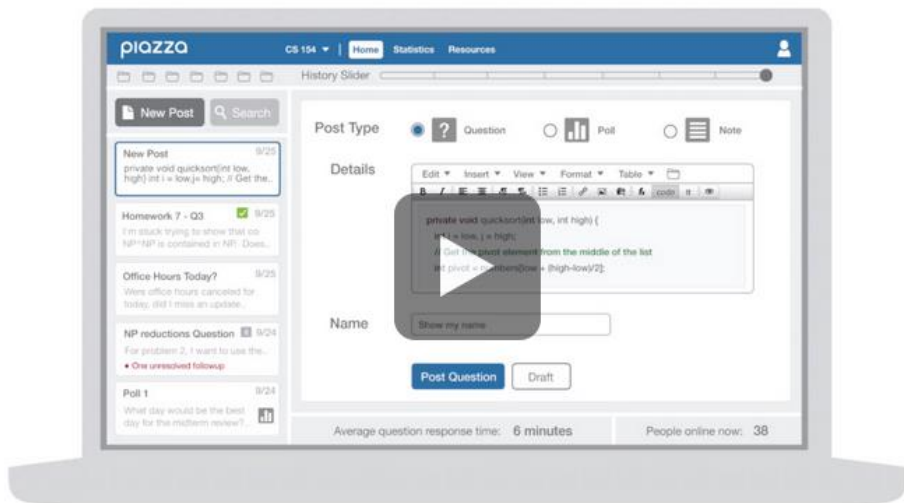
On Demand
07 May 2019
17:02 GDT
56 Minutes 4 Seconds
11 views





The incredibly easy, completely free Q&A platform

Save time and help students learn using the power of community

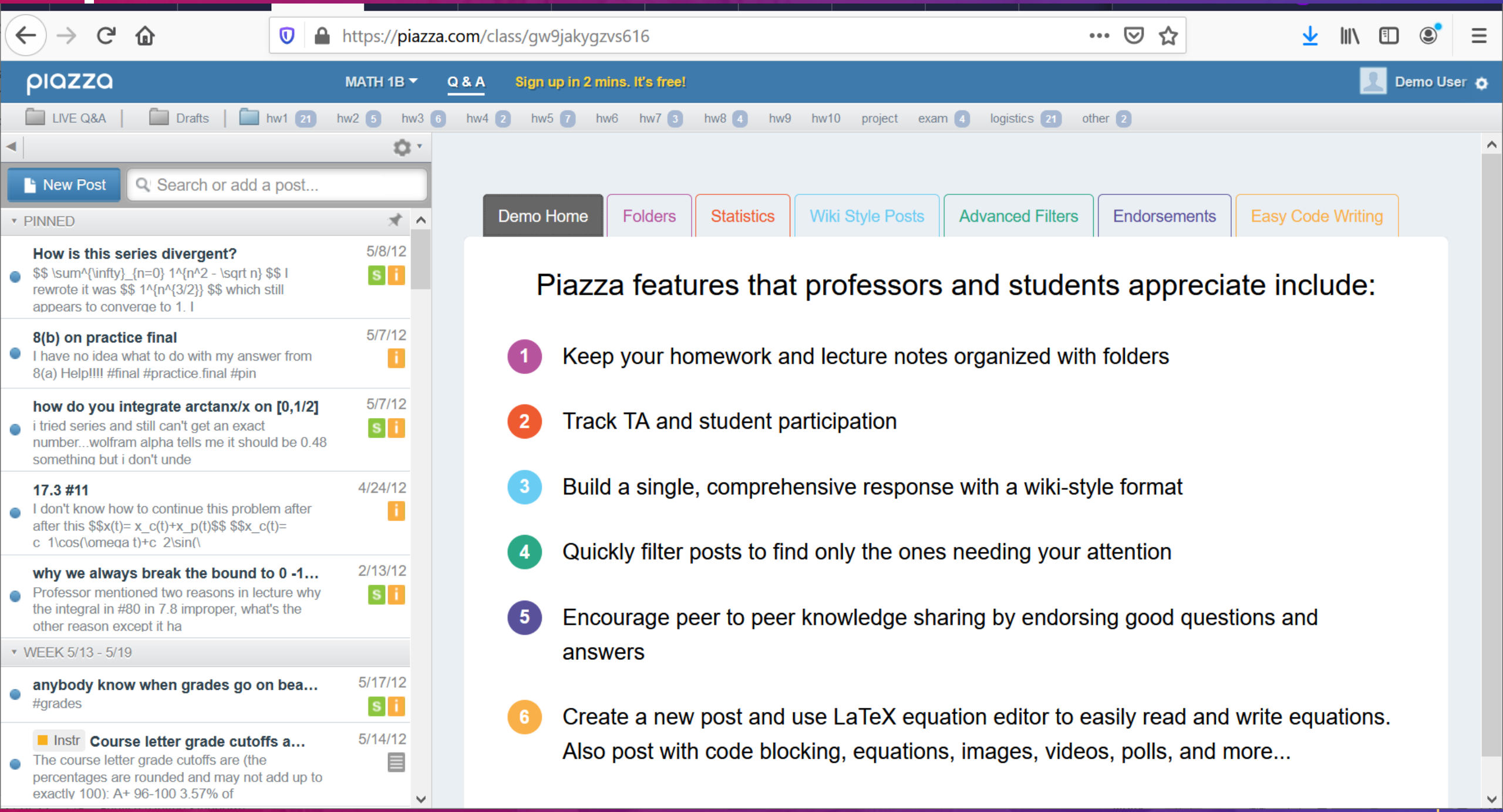


- Wiki style format enables collaboration in a single space
- Features LaTeX editor, highlighted syntax and code blocking
- Questions and posts needing immediate action are highlighted
- Instructors endorse answers to keep the class on track
- Anonymous posting encourages every student to participate
- Highly customizable online polls
- Integrates with every major LMS

Students Get Started

Professors and TAs Get Started

View a Real Class



New Post Search or add a post...

PINNED

- How is this series divergent?** 5/8/12
I rewrote it as $\sum_{n=0}^{\infty} 1^{n^2 - \sqrt{n}}$ which still appears to converge to 1. | s i
- 8(b) on practice final** 5/7/12
I have no idea what to do with my answer from 8(a) Help!!!! #final #practice.final #pin | i
- how do you integrate arctanx/x on [0,1/2]** 5/7/12
i tried series and still can't get an exact number...wolfram alpha tells me it should be 0.48 something but i don't unde | s i
- 17.3 #11** 4/24/12
I don't know how to continue this problem after after this $x_c(t) = x_c(t) + x_p(t)$ $x_c(t) = c^{-1} \cos(\omega t) + c^{-2} \sin(\omega t)$ | i
- why we always break the bound to 0 -1...** 2/13/12
Professor mentioned two reasons in lecture why the integral in #80 in 7.8 improper, what's the other reason except it ha | s i
- anybody know when grades go on bea...** 5/17/12
#grades | s i
- Instr Course letter grade cutoffs a...** 5/14/12
The course letter grade cutoffs are (the percentages are rounded and may not add up to exactly 100): A+ 96-100 3.57% of | i

- Demo Home
- Folders
- Statistics
- Wiki Style Posts
- Advanced Filters
- Endorsements
- Easy Code Writing

Piazza features that professors and students appreciate include:

- 1 Keep your homework and lecture notes organized with folders
- 2 Track TA and student participation
- 3 Build a single, comprehensive response with a wiki-style format
- 4 Quickly filter posts to find only the ones needing your attention
- 5 Encourage peer to peer knowledge sharing by endorsing good questions and answers
- 6 Create a new post and use LaTeX equation editor to easily read and write equations. Also post with code blocking, equations, images, videos, polls, and more...

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May 28, 2020

Safe Exam Browser 3.0.0 for Windows: The next major version for Windows has been published. SEB 3.x for Windows is completely refactored and uses Chromium as integrated browser engine. This allows better integration of browser functionality into the SEB application and increased stability, security and performance. The up-to-date Chromium browser engine also guarantees great compatibility with modern e-assessment web applications.

Below a list of the most prominent new features and changes:

- New, embedded browser engine (Chromium Version 79.0.3945.130 for SEB 3.0).
- Dedicated builds for 32-bit and 64-bit operating systems.
- Supports kiosk mode switch when reconfiguring (e.g. from Create New Desktop to Disable Explorer Shell).
- Action Center (side menu) with same functionality as taskbar (i.e. access to applications and system controls).
- Lock Screen, which is activated if a prohibited application can't be terminated.
- Access to developer tools of browser engine (for web developers).
- Real-time access to SEB application log (e.g. to test features like the URL filter).
- New settings to control browser session (for SEB-Moodle Deeper Integration).
- Improved user interface with new features (e.g. thumbnails of open windows in task view [ALT+TAB]).
- Completely automated build system with unit tests.

SEB 3.0 does not yet provide the complete feature set of SEB 2.x. See [release notes](#) for details.



[Case Studies](#) [Institutional Use](#)

Learning Analytics in Higher Education: A review of UK and international practice

By [Niall Sclater](#) [April 19, 2016](#) [2 Comments](#)





The main report summarises the case studies. The full individual case studies are:

1. [Traffic Lights and Interventions: Signals at Purdue University](#)
2. [Analysing use of the VLE at the University of Maryland, Baltimore County](#)
3. [Identifying at-risk students at New York Institute of Technology](#)
4. [Fine-grained analysis of student data at California State University](#)
5. [Transferring predictive models to other institutions from Marist College](#)
6. [Enhancing retention at Edith Cowan University](#)
7. [Early alert at the University of New England](#)
8. [Developing an 'analytics mind-set' at the Open University](#)
9. [Predictive analytics at Nottingham Trent University](#)
10. [Analysing social networks at the University of Wollongong](#)
11. [Personalised pathway planning at Open Universities Australia](#)

It's worth also checking out the LACE project's [Evidence Hub](#) for anyone interested in exploring further the evidence for learning analytics.