

# A multifaceted approach to numeracy support for life sciences students

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# The issues

- Academic
- Professional

# In place already

- Academic Tutorial Service – numeracy session
- Level 4 laboratory sessions requiring calculations
- Some numeracy support within modules

# Solutions

- Interactive multimedia
- Face-to-face support

# Local interactive multimedia

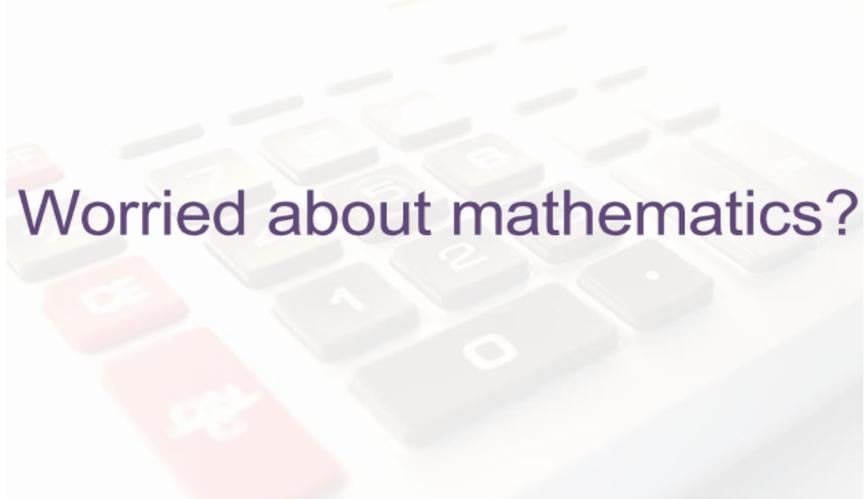
The screenshot shows a Windows Internet Explorer browser window displaying a web page from the University of Westminster. The page is titled "Interactive Numeracy Resource" and "School of Life Sciences Contents Page". It features a grid of 20 topics, each with a "Start" button. The topics are arranged in two columns. The browser's address bar shows the URL: <http://cavpod.wmin.ac.uk/~video/school/sols/numeracy/rlo1.html>. The browser's menu bar includes File, Edit, View, Favorites, Tools, and Help. The browser's status bar shows "Done" and "Internet".

School of Life Sciences Contents Page			
Accuracy and Precision	<a href="#">Start</a>	Making up a Solution	<a href="#">Start</a>
Allele frequency	<a href="#">Start</a>	Making up a Solution for a Standard Curve	<a href="#">Start</a>
Beer Lambert	<a href="#">Start</a>	Mean Corpuscular Haemoglobin	<a href="#">Start</a>
Calculation of international normalised ratio (INR)	<a href="#">Start</a>	Mean Corpuscular Haemoglobin Concentration	<a href="#">Start</a>
Conversion of units	<a href="#">Start</a>	Mean Corpuscular Volume	<a href="#">Start</a>
DNA copy number	<a href="#">Start</a>	Number of Parasites	<a href="#">Start</a>
Equation for a Straight Line 1	<a href="#">Start</a>	PCR Primer	<a href="#">Start</a>
Equation for a Straight Line 2	<a href="#">Start</a>	pH Calculations	<a href="#">Start</a>
Gene manipulation and recombinant DNA technology	<a href="#">Start</a>	Plotting a Standard Curve	<a href="#">Start</a>
Graph Calculations	<a href="#">Start</a>	Population Frequency	<a href="#">Start</a>
Henderson-Hasselbalch equation	<a href="#">Start</a>	Semi-log Graph Paper	<a href="#">Start</a>
Interference Studies	<a href="#">Start</a>	Standard Deviation	<a href="#">Start</a>

# Drop-in Sessions

- Piloted October 2011
- Open to all
- Fixed running period
- Volunteer members of staff
- **Informal approach**
- Session format

SCHOOL OF  
LIFE SCIENCES



## Worried about mathematics?

There will be two optional drop-in sessions on:

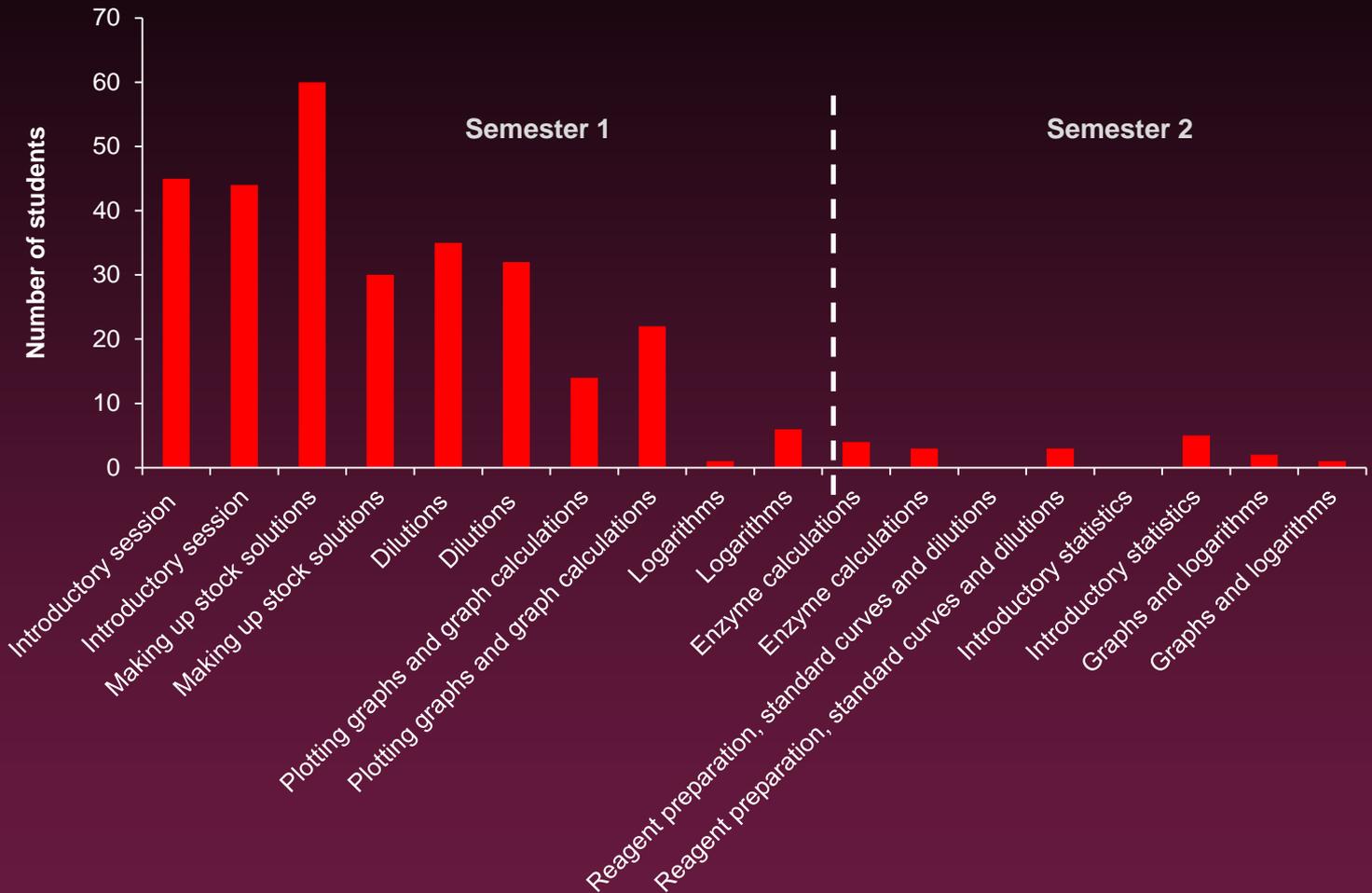
**Wednesday 5<sup>th</sup> October & Wednesday 12<sup>th</sup> October**

**from 1pm to 2pm**

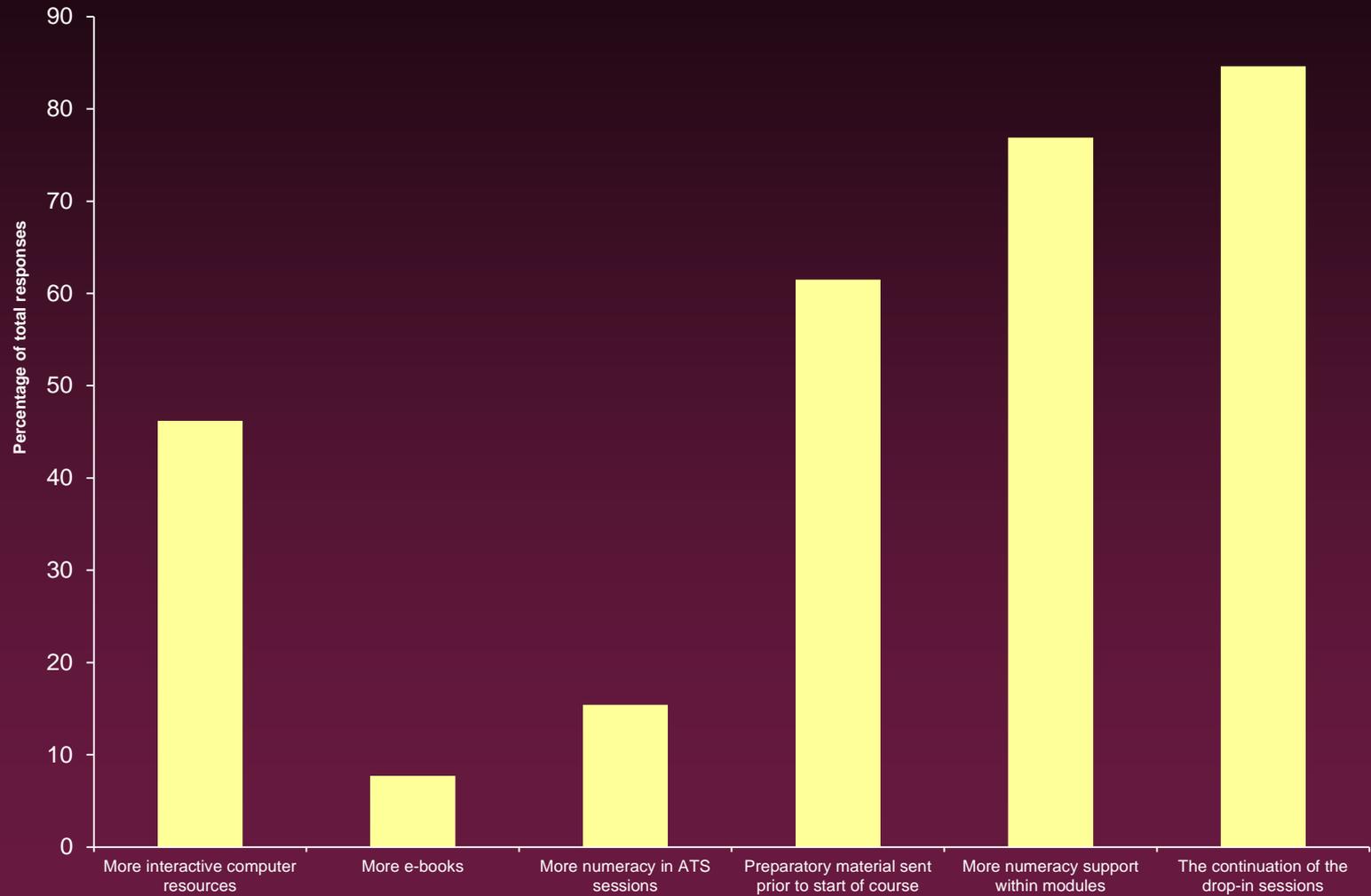
**in room C2.15**

Please e-mail [c.ferrier@westminster.ac.uk](mailto:c.ferrier@westminster.ac.uk) if you wish to attend either of the sessions stating preferred date.

Repeat sessions will be made available if demand exceeds room size.



October 2011 to March 2012, drop-in session attendance and subject areas.

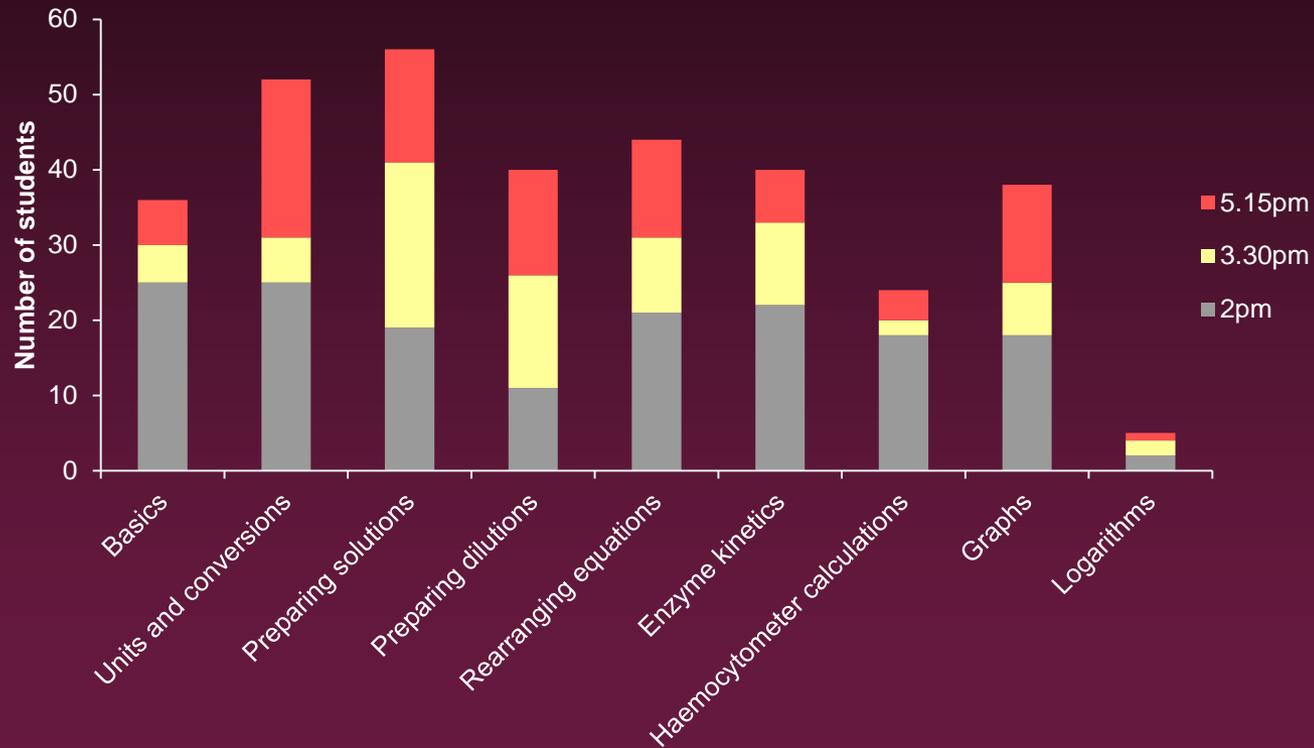


Student preferences for numeracy support in December 2011 (n=13)

# Conclusions

- Continue with Drop-in sessions Semester 1 only (four members of staff , two per session)
- More resources to be made available on Blackboard
- Selected topics on a weekly basis

# 2012/2013



October 2012 to December 2012 drop-in session attendance and subject areas.

My Intranet - University of x fileLinX x Chrystalla Ferrier - Outlook x Blackboard Learn x

https://learning.westminster.ac.uk/webapps/portal/frameset.jsp?tab\_tab\_group\_id=\_3\_1&url=%2Fwebapps%2Fblackboard%2Fexecute%2Flauncher%3Ftype%3DCourse%2

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Welcome Learning Futures Library Search Podcasts Study Skills Westminster Webinars The Catalyst Help

Announcements

Module Selection 2013

Course representatives

Timetables

level 4 programme Students

level 5 programme Students

level 6 programme

Tutor Groups

Other help

Numeracy resources

Effective Study Guide

Careers

School of Life Science Policies

Disabilities

Documents

Help

Discussions

Events

Tools

**Timetable for 2012 Drop-in Sessions**

Enabled: Statistics Tracking

Attached Files: Numeracy Support Sessions 2012.pdf (169.81 KB)

04/10/12	Basics
11/10/12	Units and conversions
18/10/12	Solutions and Dilutions 1
25/10/12	Solutions and Dilutions 2
01/11/12	Rearranging equations
08/11/12	GIS Week
15/11/12	Enzyme kinetics calculations
22/11/12	Haemocytometer calculations
29/11/12	Enzyme Kinetics/Graphs
06/12/12	pH calculations

https://learning.westminster.ac.uk/webapps/blackboard/content/listContentEditable.jsp?content\_id=\_304356\_1&course\_id=\_2923\_1&mode=reset#

11:08 08/09/2013

My Intranet - University of Westminster | fileLinX | Chrystalla Ferrier - Outlook | Blackboard Learn

https://learning.westminster.ac.uk/webapps/portal/frameset.jsp?tab\_tab\_group\_id=\_3\_1&url=%2Fwebapps%2Fblackboard%2Fexecute%2Flauncher%3Ftype%3DCourse%2F

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Coursework

ORGANISATION MANAGEMENT

Control Panel

- Files
- Organisation Tools
- Evaluation
- Grade Centre
- Users and Groups
- Customisation
- Packages and Utilities
- Help

**Information and activities from the drop-in sessions**

Enabled: Statistics Tracking  
A few notes plus an opportunity for you to practice the examples from the sessions.

**Solutions, concentrations and dilutions.**

Availability: Item is no longer available. It was last available on 30-Jul-2013 23:59.  
Enabled: Statistics Tracking  
Attached Files: Solutions.pdf (439.948 KB)

I'd appreciate your feedback on the usefulness of the attached pdf document.  
Is there anything we can do to make it better or clearer??  
Thanks, Stephen

**Interactive Numeracy Resource**

Enabled: Statistics Tracking  
A resource we have produced for all our undergraduate students, you may find some of it helpful.  
Here's the link again:  
<http://cavpod.wmin.ac.uk/~video/school/sols/numeracyrlo/rlo1.html>

**Some numeracy resources**

Enabled: Statistics Tracking  
Attached Files: Numeracy Support Resources.docx (13.919 KB)  
Numeracy Support Resources.pdf (66.523 KB)

Windows Taskbar: 11:12 08/09/2013

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https://learning.westminster.ac.uk/webapps/portal/frameset.jsp?tab\_tab\_group\_id=\_3\_1&url=%2Fwebapps%2Fblackboard%2Fexecute%2Flauncher%3Ftype%3DCourse%2

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- Users and Groups
- Customisation
- Packages and Utilities
- Help

Enabled: Statistics Tracking

Attached Files: [Preparing solutions\\_Worksheet.docx](#) (15.752 KB) [Preparing solutions\\_Worksheet with answers.docx](#) (16.155 KB)

**Session4: Preparing dilutions**

Enabled: Statistics Tracking

Attached Files: [Preparing dilutions Information.docx](#) (16.853 KB) [Preparing dilutions Information.pdf](#) (145.266 KB)

**Session 4: Preparing dilutions questions**

Enabled: Statistics Tracking

Attached Files: [Preparing Dilutions\\_Worksheet.docx](#) (12.387 KB) [Preparing Dilutions\\_Worksheet with answers.docx](#) (13.119 KB)

**Session 5: Rearranging Equations**

Enabled: Statistics Tracking

Attached Files: [Rearranging equations\\_Information.docx](#) (16.84 KB) [Rearranging equations\\_Information.pdf](#) (62.165 KB)

**Session 5: Rearranging equations questions**

Enabled: Statistics Tracking

Attached Files: [Rearranging equations\\_Worksheet.docx](#) (24.19 KB)

Windows Taskbar: Internet Explorer, File Explorer, Windows Media Center, Microsoft Word, Microsoft PowerPoint, Google Chrome, VLC Media Player, Blackboard Learn, PDFelement

System Tray: 11:40, 08/09/2013

My Intranet - University of x fileLinX x Chrystalla Ferrier - Outloo x Blackboard Learn x Preview Test: More advan x

← → C [https://learning.westminster.ac.uk/webapps/assessment/take/launch.jsp?course\\_assessment\\_id=\\_5678\\_1&course\\_id=\\_2923\\_1&content\\_id=\\_447257\\_1&step=null](https://learning.westminster.ac.uk/webapps/assessment/take/launch.jsp?course_assessment_id=_5678_1&course_id=_2923_1&content_id=_447257_1&step=null) ☆ ☰

Question Completion Status:

- $4.4 \times 10^2$
- $3 \times 10^2$
- $8.8 \times 10^2$

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**Question 2** 1 points [Save Answer](#)

$(4 \times 10^{-8}) \times (5 \times 10^3) =$

- $2 \times 10^{-4}$
- $2 \times 10^5$
- $9 \times 10^{-5}$
- $20 \times 10^{-5}$

---

**Question 3** 1 points [Save Answer](#)

$(9 \times 10^{-3}) \times (9 \times 10^{-2}) =$

- 810
- $8.1 \times 10^{-4}$
- 0.81
- $8.1 \times 10^4$

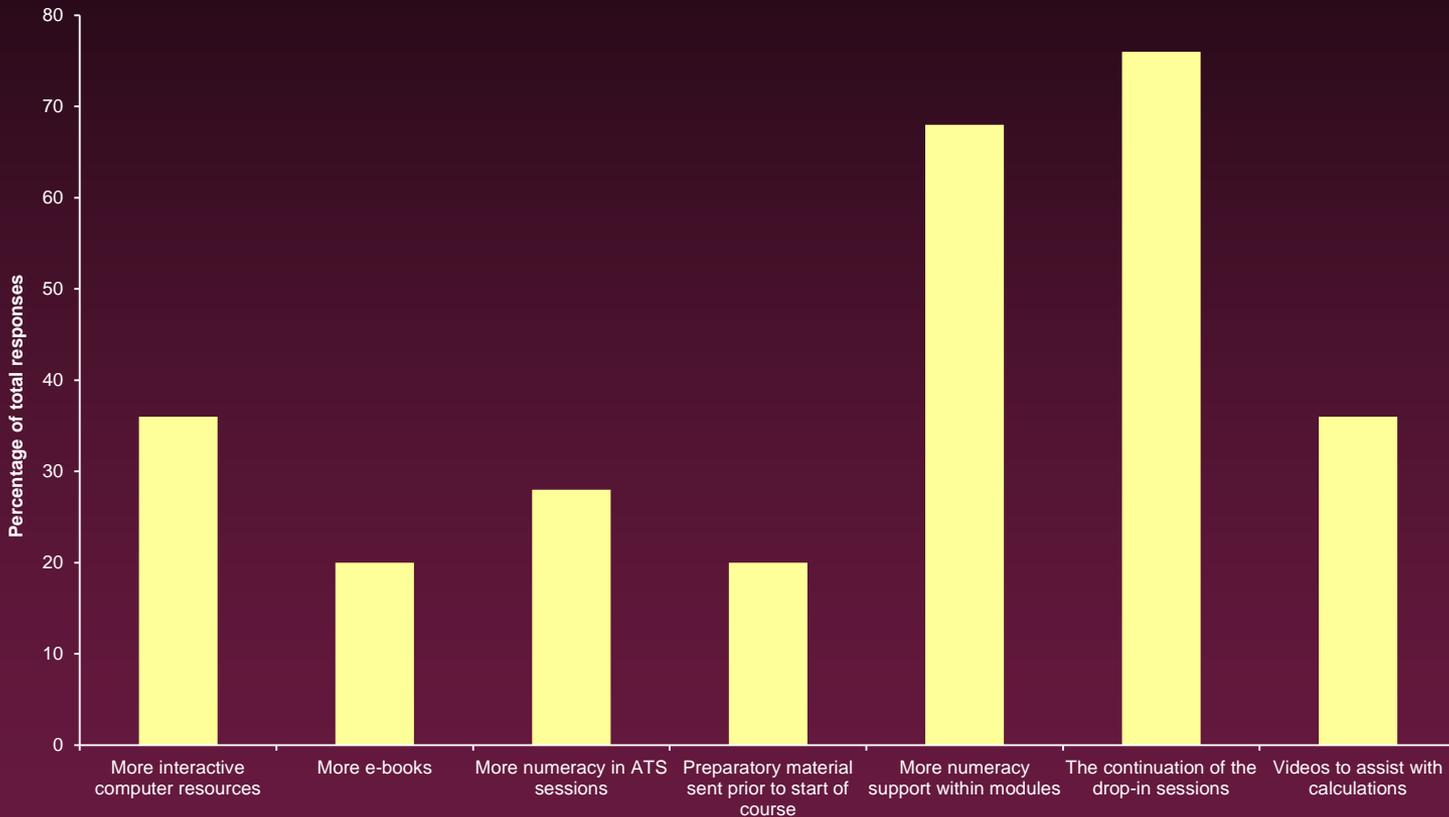
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**Question 4** 1 points [Save Answer](#)

$(2 \times 10^7) \div (4 \times 10^3) =$

- $5 \times 10^{10}$
- $8 \times 10^3$

Windows taskbar: Internet Explorer, File Explorer, Google Chrome, PDF viewer, system tray (11:32, 08/09/2013)



Student preferences for numeracy support in December 2012 (n = 29)

# A few comments..

*“Thank you all for introducing the numeracy drop in sessions, it has helped me a great deal. Thanks again and I hope these sessions will be on-going.”*

*“I loved all of the Drop In sessions. I will definitely recommend them to everybody”*

*“Excellent and very worthwhile sessions.”*

*“Numeracy support is an absolute god send, I believe that students should be screened for numeracy skills as they are with literacy and given extra support.”*

*“Just a real God send the sessions have been really helpful thank you.”*

*“You may consider to put more material on Blackboard with included answers:)”*

# What now?

- October and November weekly Drop-in sessions
- Production of Camtasia videos to mirror the Drop-in sessions
- Increase provision of self-tests on Blackboard
- Investigate new software for interactive multimedia production