

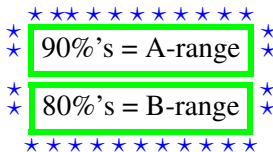
# Welcome to class!

with Prof. D'Ambroise

# High Expectations



# Grading Standards



74-79% = C or C-plus = passing

70-73% = C-minus = failing

60%'s = D-range = failing

below 60% = F = failing

*All students are held to the same high standards  
regardless of job/home/other class responsibilities.*

# Grading Standards

*Aiming to surpass  
is the best  
strategy!*

★ ★ ★ ★ ★ ★ ★ ★ ★ ★
★ 90%'s = A-range ★
★ 80%'s = B-range ★
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# Failing Mentality (for lack of a better word)

- go to class
- do assignments
- take exams

# Mentality for Success

- prepare in advance
- go to class
- discuss with your peers & communicate with prof.
- do assignments
- think, ponder, ask questions, review, revise
- take exams
- be realistic & evaluate your progress honestly

# Math is vast!

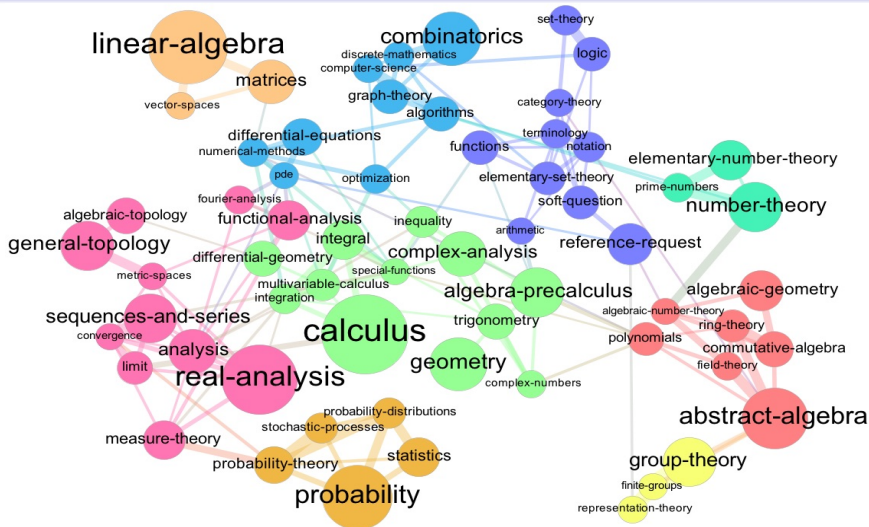


Image from Stack Exchange: <http://meta.math.stackexchange.com/questions/6479/a-graph-map-of-math-se>

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If you use outside resources you must follow up with  
reading the book, coming to office hours,  
and interacting with *our* course material.

*Only your Prof. can tell you what WE focus on in THIS class!*

# Harmful Math Stereotypes

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*BREAK THE CYCLE  
by working hard  
and learning to communicate & ask for help.*

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false beliefs about your abilities.*

*Work hard and LEARN HOW to read a math textbook.*

*Tips: Skipping around is recommended for math!  
(math textbook  $\neq$  novel)*

*Be persistent, ask questions, take notes.  
Actively engage, don't be passive.*



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- Math is an Inborn Talent

*False.*

*Math is an acquired skill that takes  
hard work and dedication.*

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*Don't handicap yourself by  
shutting out peers, the prof., tutors, etc..*

*Communication is essential to learning math!*

# Mentality for Success

Too proud to get help?

# Mentality for Success

Too proud to get help?  
You're at risk for failure.

# Advice From Students

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*This class is a commitment.*

*Plan wisely.*

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*WHY?*

*There is A LOT of information in this class.*

*Quick summaries help to reduce the cognitive load.*

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- 4 **Expert:** rules are instinctual & automatic, student has practiced so much they not surprised by exam questions
- 5 **Mastery:** (rare) mental energy no longer needed to produce nearly perfect results

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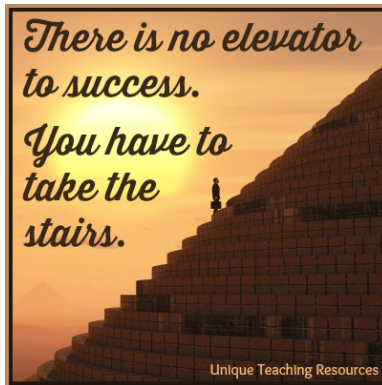
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- ④ **(decent outcome: A or B) Expert:** rules are instinctual & automatic, student has practiced so much they not surprised by exam questions
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# Memes



## Everyday

**I WILL TRY HARDER  
THAN I DID BEFORE!**



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The next few pages only apply to courses with online HW.

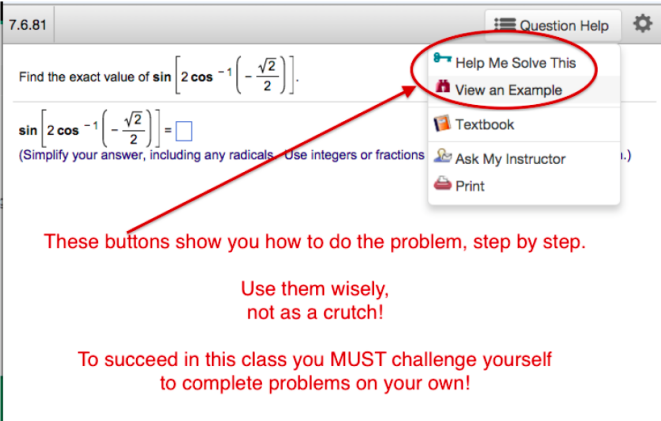
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The next few pages only apply to courses with online HW.

You cannot surpass novice level  
if you rely too heavily on provided instructions.



The screenshot shows a math problem interface. At the top left, the problem ID '7.6.81' is displayed. The problem text asks to find the exact value of  $\sin \left[ 2 \cos^{-1} \left( -\frac{\sqrt{2}}{2} \right) \right]$ . Below the text, the same expression is shown in a larger font with an equals sign followed by a blue square input box. A note in parentheses says '(Simplify your answer, including any radicals. Use integers or fractions)'. On the right side, there is a 'Question Help' button with a gear icon. A red circle highlights a dropdown menu that appears when the 'Question Help' button is clicked. The menu contains five options: 'Help Me Solve This' (with a key icon), 'View an Example' (with a book icon), 'Textbook' (with a book icon), 'Ask My Instructor' (with a person icon), and 'Print' (with a printer icon). A red arrow points from the text 'These buttons show you how to do the problem, step by step.' to the 'Help Me Solve This' and 'View an Example' options. Below the arrow, the text 'Use them wisely, not as a crutch!' is displayed. At the bottom, the text 'To succeed in this class you MUST challenge yourself to complete problems on your own!' is shown in red.

7.6.81

Find the exact value of  $\sin \left[ 2 \cos^{-1} \left( -\frac{\sqrt{2}}{2} \right) \right]$ .

$\sin \left[ 2 \cos^{-1} \left( -\frac{\sqrt{2}}{2} \right) \right] = \square$

(Simplify your answer, including any radicals. Use integers or fractions.)

Question Help

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These buttons show you how to do the problem, step by step.

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To succeed in this class you MUST challenge yourself  
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You cannot surpass the competence level  
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(Simplify your answer, including any radicals. Use integers or fractions for any numbers in the expression.)

Seek out MORE than just the assigned HW!

Look for the book section reference and go find more problems in the book.

Take the initiative and quiz yourself regularly using extra book problems!

In Problems 81–92, find the exact value of each expression.

81.  $\sin \left( 2 \sin^{-1} \frac{1}{2} \right)$

82.  $\sin \left[ 2 \sin^{-1} \frac{\sqrt{3}}{2} \right]$

83.  $\cos \left( 2 \sin^{-1} \frac{3}{5} \right)$

84.  $\cos \left( 2 \cos^{-1} \frac{4}{5} \right)$