The DAT: Refining your Strategy
Sachi Mehrotra, UCLA SOD Class of 2019
Joy Nisnisan, Chair Predental Planning Committee, NLC 2017
Sachi Mehrotra

• UCLA undergrad Class of 2015
  – BS in Physiological Science
  – Minor in Spanish
• UCLA SOD Class of 2019
• Took DAT in Fall 2013
• Created DAT study content for Memorangapp.com
Joy Nisnisan

• Non-traditional predental student
• University of Houston, Class of 2017
  – B.S. Human Nutrition & Foods
  – Minor in Biology
  – Currently taking post baccalaureate classes
  – Retook DAT in July 2017
• Modifying your study schedule
• Quality study materials
• Strategies for each section
  – Science
  – PAT
  – Reading Comprehension
  – Quantitative Reasoning (QR)
Modifying your Study Schedule

• Evaluate performance on last test
• Evaluate study methods and habits
• Understand how you learn & study
  – Self Study
  – Face to face (Classroom)
• Create a new schedule with newfound understanding
Retake Study Strategies

• Practice problems
  – Know the reasoning behind right answers
  – Understand why the wrong answers are incorrect
  – Make the most of your practice question base

• Why are you retaking this?
  – Way off your goal score
    • Study the sections you’re weakest
  – Close but not quite at your goal score
    • Tougher study materials/more in depth (DAT Achiever etc)
DAT Breakdown

• Let’s review
• Year round, multiple choice
• 4.5 hours long
• 4 sections
  • Natural Sciences
  • Perceptual Ability
  • Reading Comprehension
  • Quantitative Reasoning

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Natural Sciences Section

- Biology (40)
- General Chemistry (30)
- Organic Chemistry (30)
Biology

Recommended resources:
• Feralis notes
• Biology I & II course notes
• AP Biology Book
• Youtube: Crash Course Biology

Recommended study strategy:
• Study ahead of time
• Understand each chapter before moving on
• Memorang, Anki or Flash Cards
Biology Sample Problem

Where is the CO2 mammals exhale produced?

A. Alcohol fermentation in cytosol  
B. Glycolysis in the intermembrane space  
C. Glycolysis in the cytosol  
D. Citric acid cycle in the intermembrane space  
E. Citric acid cycle in the mitochondrial matrix

Source: DAT Bootcamp Survey of Natural Sciences Test #5
Biology Sample Problem - Answer

Where is the CO2 mammals exhale produced?

A. Alcohol fermentation in cytosol
B. Glycolysis in the intermembrane space
C. Glycolysis in the cytosol
D. Citric acid cycle in the intermembrane space
E. Citric acid cycle in the mitochondrial matrix

What you need to know to answer question:
The citric acid cycle, or the Krebs cycle, occurs in the mitochondrial matrix. This is the process in respiration that produces the CO₂ we exhale. Glycolysis and fermentation occurs entirely in the cytosol of the cell. Alcohol fermentation also releases CO₂, but it does not occur in mammals. If it did, we would produce ethanol and become permanently drunk. Mammals undergo lactic acid fermentation to avoid this problem.

Source: DAT Bootcamp Survey of Natural Sciences Test #5
Chemistry

Recommended Study Material:
• Chad’s Videos (Course Saver Subscription)
• Mike’s Videos (DAT Bootcamp upgrade)
• DAT Destroyer (Harder than the DAT)

Recommended study strategy:
• Go through each video
• Take detailed notes
• Practice, practice, practice
Chemistry Sample Problem

A student measures the mass of a compound to be 9.01 g and its volume to be 11.0 mL. What is the density in g/mL?

A. 0.8
B. 0.82
C. 0.819
D. 0.8191
E. 0.81909

Source: DAT Bootcamp Survey of Natural Sciences Test #5
Chemistry Sample Problem - Answer

A student measures the mass of a compound to be 9.01 g and its volume to be 11.0 mL. What is the density in g/mL?

A. 0.8  
B. 0.82  
C. 0.819  
D. 0.8191  
E. 0.81909

What you need to know to answer question:
You may be exclaiming you need a calculator for this problem. This problem isn’t testing your calculation skills though; it is testing your knowledge of significant figures. We have 3 significant figures in 9.01 g and 3 significant figures in 11.0 mL, so our answer must have 3 significant figures.

For multiplying and dividing, the number of significant figures is determined by the measurement with the fewest amount of significant figures. For adding and subtracting, the answer must have the same amount of decimal places as the measurement with the fewest number of decimal places. This reduces error when taking measurements.

Source: DAT Bootcamp Survey of Natural Sciences Test #5
Organic Chemistry

Recommended Study Material:
• Chad’s Videos (Course Saver Subscription)
• Mike’s Videos (DAT Bootcamp upgrade)
• DAT Destroyer (Harder than the DAT)

Recommended study strategy:
• Same as for General Chemistry
• Flashcards/reactions sheets
Organic Chemistry Sample Problem

Which statement is true with regard to the following addition reactions (I and II)?

A. Both I and II are Anti-Markovnikov additions.
B. Both I and II are Markovnikov additions.
C. Reaction I is a Markovnikov addition while reaction II is an Anti-Markovnikov addition.
D. Reaction I is an Anti-Markovnikov addition while reaction II is a Markovnikov addition.
E. Reactions I and II are neither Markovnikov nor Anti-Markovnikov additions.

Source: DAT Bootcamp Survey of Natural Sciences Test #5
Organic Chemistry Sample Problem - Answer

Which statement is true with regard to the following addition reactions (I and II)?

A. Both I and II are Anti-Markovnikov additions.
B. Both I and II are Markovnikov additions.
C. Reaction I is a Markovnikov addition while reaction II is an Anti-Markovnikov addition.
D. Reaction I is an Anti-Markovnikov addition while reaction II is a Markovnikov addition.
E. Reactions I and II are neither Markovnikov nor Anti-Markovnikov additions.

Source: DAT Bootcamp Survey of Natural Sciences Test #5
Perceptual Ability Section

• 90 questions, 6 subtests
  – Key Hole
  – Top Front End (TFE)
  – Angle Ranking
  – Hole Punching
  – Cube Counting
  – Pattern Folding
PAT

Recommended Study Material:
- DAT Bootcamp (PAT Academy + Practice Tests)
- Q-Vault
- Crack the PAT

Study Strategy:
- Understanding mistakes/ guesses
- PAT Trainer Game (every day)
- PAT Academy (Videos)
- Focus on weak subtests
Key Hole Sample Problem

DAT Bootcamp: Perceptual Ability Test Exam #3
Key Hole Sample Problem - Answer

DAT Bootcamp: Perceptual Ability Test Exam #3
Key Hole Explanation

Explanation: Start by looking at the answers.
TFE Sample Problem

Choose the correct END VIEW.

TOP VIEW

FRONT VIEW

END VIEW

A

B

C

D

DAT Bootcamp: Perceptual Ability Test Exam #3
TFE Problem - Answer

Choose the correct END VIEW.

TOP VIEW  FRONT VIEW  END VIEW

A  B  C  D

DAT Bootcamp: Perceptual Ability Test Exam #3
Angle Ranking Problem

1. 
2. 
3. 
4. 

A. 1<4<2<3
B. 4<2<3<1
C. 1<2<3<4
D. 4<1<2<3

DAT Bootcamp: Perceptual Ability Test Exam #3
Angle Ranking Problem - Answer

A. $1 < 4 < 2 < 3$
B. $4 < 2 < 3 < 1$
C. $1 < 2 < 3 < 4$
D. $4 < 1 < 2 < 3$
Hole Punching Problem

Fold 1
Fold 2
Fold 3
Hole Punch

A
B
C
D
E

DAT Bootcamp: Perceptual Ability Test Exam #3
Hole Punching - Answer

E
Cube Counting Sample Problem

How many cubes have 1 side painted?
## Cube Counting Answer

<table>
<thead>
<tr>
<th>Sides Painted</th>
<th># Painted</th>
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</tr>
<tr>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
</tr>
</tbody>
</table>

Total Cubes = 22

DAT Bootcamp: Perceptual Ability Test Exam #3
Pattern Folding Sample Problem

A  B  C  D

DAT Bootcamp: Perceptual Ability Test Exam #3
Pattern Folding Sample - Answer

Look at the top piece. The face from answer A does not match the blue piece in the unfolded image.

Answer C and D kind of have the right overall shape; however, they have the rectangle sticking out in the wrong area.

The area it should be sticking out is circled in red.

DAT Bootcamp: Perceptual Ability Test Exam #3 #NLC17
Reading Comprehension Section

- 50 questions, 3 passages
- Scientific topics
- Tests your ability to
  - Read
  - Comprehend
  - Analyze basic science information

Recommended Material:
- DAT Bootcamp
- Crack the DAT
- Q-Vault

Study Strategies:
- Read a science article everyday
- Read when you can
- Find best strategy that works for YOU
- Familiarize yourself with types of questions
Reading Comprehension Strategies

• Balanced Strategy
  – Read first 2 paragraphs thoroughly
  – Read until halfway through passage (Paragraphs 6-8)
  – Start answering questions
  – If you encounter question you don’t know, go back and read more

• Search and Destroy
  – Look/skim questions for key words
  – Refer back to passage to answer questions
Reading Comprehension Strategies

• Traditional
  – Read entire passage
  – Then answer questions

Tips:
• Spend no more than 20 minutes (reading + answering questions) per passage!
• Practice makes perfect
Quantitative Reasoning

• 40 questions
• Mathematical problems
• Applied mathematics (word) problems
• Quantitative Comparison (recent addition)
Quantitative Reasoning

• Recommended Study Material:
  – DAT Bootcamp
  – DAT Destroyer
  – Chad’s Video’s
  – Khan Academy

• Study strategy
  – Review concepts
  – Practice, practice, practice
Quantitative Comparison Problem

Quantity A
\[ 5x^2 - 20x + 19 \]

Quantity B
\[ -2 \]

A. Quantity A is greater.
B. Quantity B is greater.
C. The two quantities are equal.
D. The relationship cannot be determined from the information given.
Quantitative Comparison - Answer

Since the coefficient of our quadratic term is positive, we know our parabola in Quantity A is concave up. We can immediately eliminate (B) and (C), as our parabola will not simply equal a constant value. Additionally, because our parabola is concave up, we know our vertex defines our smallest value. Our first step is to determine the vertex of the parabola in Quantity A. The formula we have for this is:

$$x_{vertex} = \frac{-b}{2a} = \frac{20}{2(5)} = 2$$

We can then plug this value back into our initial equation to determine the smallest value of Quantity A:

$$5(2)^2 - 20(2) + 19 = -1$$

Since the smallest possible value for Quantity A is greater than Quantity B, our answer must be [A]. Quantity A is greater.

Of note, we could have also equated the two terms, set equal to zero, and evaluated the radicand in the quadratic formula. This approach would have also been correct, but requires more steps.

Topic: Quantitative Comparison
Scoring

• Scored from 1-30
• Average of 18
• Converted from raw to scaled scores
• No pass/fail
• Scores based on # correct (no penalty for guessing)
Retest Criteria

• Must wait 90 days to retake
• After 3 attempts, must apply to take it again
  – May only test once in a 12 month period
  – Request retake by emailing datexam@ada.org and include
    • Proof of completed ADEA AADSAS application
    • Letter of rejection
    • Letter from dental school admissions officer encouraging a retest
    • Letter from university advisor verifying that tester is applying to dental school
Questions??

Thanks for your attention, good luck to you all! :)

*More strategies and details can be found in the handout