#### LIGHT YEARS AHEAD IN LEARNING

### STRATEGY CARDS FOR HIGHER GRADES

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Invaluable Rules & Tips For Effective Study & Test-Taking



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#### CONTENTS

10 Steps To Better Test-Taking / 3

Reducing Test Anxiety / 4

10 Steps For Reading Material -

Other Than Math / 5

Reworking Your Notes / 6

10 Steps For Reading Math Material / 7

If You Don't Understand

The Math Reading Material . . . / 8

Steps For Doing Your Math Homework / 9-10

Translating English Terms

Into Algebraic Symbols / 11

Translating English Words

Into Algebraic Expressions / 12

Steps For Taking An Objective Test / 13-14

Answering An Essay Test

With Several Questions / 15

Key Words On Essay Tests / 16

6 Types Of Test-Taking Errors / 17-19

#### 10 STEPS TO BETTER TEST-TAKING

- Upon receiving your test, write down the information that you think you may forget (primary data dump).
- Write your name on the test. Preview it and mark the easy questions.
- Do a second data dump.
- Develop a test progress schedule. Decide the best way to get the most points in the least amount of time.
- Answer the easiest problems first and review the answers to see if they make sense. Clearly write down each step in order to get partial credit if you end up missing the problem.
- If you find a problem that you do not know how to work, then automatically skip it.
- Review the skipped questions.
- Guess at the remaining problems or do as much work as you can on them.
- 9. Review the test for careless errors.
- Use all the allowed test time. There is no prize for handing in the test first. Staple your scratch paper to the test when handing it in.

#### REDUCING TEST ANXIETY

- Put your feet flat on the floor.
- 2. With your hands, grab under the chair.
- Push down with your feet and pull up on the chair at the same time.
- Relax for five to ten seconds.
- Repeat two or three times.
- Relax all the muscles except the ones that are actually used for the test.

#### PALMING METHOD OF VISUALIZATION

- Close your eyes and cover them using the center of the palms of your hands.
- Prevent your hands from touching your eyes by resting the lower parts of your palms on your cheekbones and placing your fingers on your forehead. The eyeballs must not be touched or rubbed in any way.
- Think of some real or imaginary relaxing scene. Mentally visualize this scene. Picture this scene as if you were actually there, looking through your own eyes.
- Visualize this relaxing scene for one to two minutes. Practice visualizing this scene several days before taking a test and the effectiveness of this relaxation procedure will improve.

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#### 10 STEPS FOR READING MATERIAL — OTHER THAN MATH

- Recall information about the material.
- 2. Establish a purpose for reading. What am I going to be reading? Why is this information so important?
- 3. Survey the textbook. How is the book arranged? How long is the assignment?
- 4. Determine task demands. Is this going to be fun reading?
- 5. Skim the material. What words are highlighted in the text? What do the pictures, charts, and graphs tell you?
- 6. Pick a strategy for comprehending the reading. Is this going to be a "quick fix"? Can I apply this information somewhere else?
- 7. Read.
- 8. Evaluate. Was this about what I thought it would be? Does this overlap with my notes? What will the teacher test me on?
- 9. Paraphrase in written or oral form. What was this about? Can I summarize key concepts in my own words?
- Write down possible test questions.

#### REWORKING YOUR NOTES

The following steps should be taken as soon as possible after class:

- Rewrite the materials you cannot read or will not be able to understand in two weeks — You will avoid the frustration of not having the information available when you need to study it at some time in the future. You will also start learning the material as you rewrite it.
- Fill in the Gaps Locate the portions of your notes that are incomplete. Fill in the concepts that were left out. In the future skip lines for known lecture gaps.
- Add additional key words and ideas in the left hand column — These are the key words not recorded during the lecture that will improve your understanding of the subject.
- 4. Reflection and Synthesis Spend five minutes reviewing the most important parts of the lecture. Try to summarize these major parts in your mind. Synthesize your notes by putting together concepts learned in past lectures with what you learned today. Write down a summary of your reflection or synthesis at the bottom of the page.

#### 10 STEPS FOR READING MATH MATERIAL

- Skim the assigned reading material.
- As you skim the chapter, circle the new words that you do not understand.
- Put all your concentration into reading.
- When you get to the examples, go through each step.
- Mark the concepts and words that you do not know.
- If you do not understand some words or concepts, develop your own glossary and ask the instructor or tutor for a better explanation.
- If you do not understand the materials, follow the eight steps on the back of this card, one after another, until you do understand.
- While reading, highlight the material that is important to you.
- After finishing your reading assignment, recall to yourself and write down the most important learned concepts.
- Write several questions that you think will be on the test. Use these questions as a future study check.

### IF YOU DON'T UNDERSTAND THE MATH READING MATERIAL ...

- Go back to the previous page and reread the information to maintain a train of thought.
- Read ahead to the next page to discover if additional information better explains the misunderstood material.
- Locate and review any diagrams, examples, or rules that explain the misunderstood material.
- Read the misunderstood paragraph(s) several times aloud to better understand the meaning.
- Refer to your notes for a better explanation of the misunderstood material.
- Refer to another textbook or use computer software to expand the explanation of the misunderstood material.
- Define what you do not understand and call your study buddy for help.
- Contact your tutor or instructor for help in understanding the material.

### STEPS FOR DOING YOUR MATH HOMEWORK

- Review the textbook material that relates to the homework.
- Review your lecture notes that relate to the homework.
- Do your homework as neatly as possible.
- Write down every step of the homework problems.
- Understand the reasons for doing each set of the homework problems — do not memorize how to do the problems.
- If you do not understand how to do a problem, follow these steps:
  - A. Review the textbook material that relates to the problem.
  - B. Review the lecture notes that relate to the problem.
  - C. Review any similar problems, diagrams, examples or rules that explain the misunderstood material.

(continued on 10)

### STEPS FOR DOING YOUR MATH HOMEWORK

(continued from 9)

- D. Refer to another math textbook, math computer software, or math video to obtain a better understanding of the material.
  - E. Call your study buddy.
- F. Skip the problem and contact your tutor or math instructor as soon as possible for help.
- Always finish your homework by successfully completing problems. Even if you get stuck, go back and successfully complete previous problems before quitting.
- After finishing your homework assignment, recall to yourself or write down the most important learned concepts.
- Make up note cards containing hard to remember problems or concepts.
- 10. Do not get behind in your math homework even if you have to do homework every day!

## TRANSLATING ENGLISH TERMS INTO ALGEBRAIC SYMBOLS

Sum	45
Add	+
In addition	4
More than	4
Increased	+
In excess	4
Greater	+
Decreased by	_
Less than	
Subtract	1 1 1
Difference	_
Diminished	_
Reduce	_
Remainder	- × ×
Times as much	×
Percent of	×
Product	×
Interest on	
Per	1
Divide	×///
Quotient	1
Quantity	()
Is - was - will be	<u>`</u>
Equal	***
Results	=
Greater than	>
Greater than or equal to	> ×
Less than	<
Less than or equal to	<
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#### TRANSLATING ENGLISH WORDS INTO ALGEBRAIC EXPRESSIONS

#### ENGLISH WORDS ALGEBRAIC EXPRESSIONS

Ten more than x	x + 10
A number added to 5	5 + x
A number increased by 13	x + 13
5 less than 10	10 - 5
A number decreased by 7	x - 7
Difference between x and 3	x - 3
Difference between 3 and x	3 - x
Twice a number	2x
Ten percent of x	.10x
Ten times x	10x
Quotient of x and 3	x/3
Quotient of 3 and x	3/x
Five is three more than	
a number	5 = x + 3
The product of two times a	
number is 10	2x = 10
One half a number is 10	x/2 = 10
Five times the sum of x and 2	5(x + 2)
Seven is greater than x	7 > x
Five times the difference of a	
number and 4	5(x - 4)
Ten subtracted from 10	
times a number is that	
number plus 5	10x - 10 = x + 5
The sum of 5x and 10 is equal	
to the product of x and 15	5x + 10 = 15x
The sum of 2 consecutive	
integers	(x) + (x + 1)
The sum of 2 consecutive	THE PARTY OF THE P
even integers	(x) + (x + 2)
The sum of 2 consecutive	
odd integers	(x) + (x + 2)

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#### STEPS FOR TAKING AN OBJECTIVE TEST

- 1. Survey the entire test.
- Read the directions carefully, making sure you understand exactly what is expected.
- Determine the point value for each question. Find out if you are penalized for guessing. If not, always guess and do not leave any questions unanswered.
- Read each question carefully, underlining key words.
- Don't read into questions what is not there.
- Pass over the difficult or debatable questions on your first reading and then come back after completing those of which you were sure.
- Use information from other questions.
- If you know you made an error, change your first answer. If it is just a guess, keep your first impression.
- Ask the instructor for clarification if you have specific questions. Spot check every fifth question for accuracy if you are using a computer-scored answer sheet.
- 10. Review your test for careless errors.

#### MULTIPLE CHOICE TESTS

 Anticipate the answer and then look for it. Read all the alternatives before answering. (continued on 14)

#### (continued from 13)

- 12. When your anticipated answer is not one of the options, discard it and concentrate on the given ones systematically. Cross out options that are clearly wrong. Be sure your choice fits the stem exactly.
- 13. When two or more options look correct, compare them with each other. Study them to find out what makes them different. Choose the more encompassing or longest option unless the question requires a specific answer.

#### TRUE-FALSE TESTS

- 14. In all questions, especially the true-false type, look for specific determiners. Words such as rarely, usually, sometimes, and seldom allow for exceptions; never, always, no and all indicate no exceptions.
- Mark statements true only if they are true without exceptions. If any part of the statement is false, the whole statement is marked false.

#### **MATCHING TESTS**

16. Stay in one column of a matching test (usually the column with definitions) and work backwards to find the words or symbol that match. Be sure to find out if the answers can be used more than once.

### ANSWERING AN ESSAY TEST WITH SEVERAL QUESTIONS

- Do a memory data dump.
- Read all the test questions and underline the important words.
- As you read each question, write down key words relating to the answer that immediately comes into your mind.
- Develop a test progress schedule.
- Answer the easiest question(s) first.
- Expand the key word outline begun in Step 3.
- 7. Organize the outline.
- 8. Write the answer.
- Go to next easiest question and proceed to Step 6.
- 10. Review all test questions.

#### **KEY WORDS ON ESSAY TESTS**

COMPARE — Look for similarities and differences between the things mentioned.

CONTRAST — Stress the dissimilarities.

DEFINE — Give a brief and accurate definition of the item.

DESCRIBE — Tell the primary characteristics of a situation or retell the important elements of a story.

DISCUSS — Be analytical. Give reasons, pro and con.

EVALUATE — Give both the positive and negative sides of the issue or topic.

**EXPLAIN** — Give the reasons or causes for being as it is.

ILLUSTRATE — Use examples. If appropriate, draw a diagram.

JUSTIFY — Give your reasons for the conclusions you have reached.

LIST — Give an itemized list; number the items.

PROVE — Give factual evidence, including logical or mathematical proof as appropriate.

REVIEW — Give a summary and comment on important aspects of the question.

SUMMARIZE — Give a summary without comment or criticism.

TRACE — Describe the progress or causes of some historical happening.

#### 6 TYPES OF TEST-TAKING ERRORS

 Misread direction errors — these errors occur when you skip directions or misunderstand directions but answer the question or do the problem anyway.

To avoid this type of error, read all the

directions.

 Careless errors — mistakes made which can be caught automatically upon reviewing the test.

To avoid this type of error, watch for simple mistakes carefully as you review

the test.

 Concept errors — mistakes made when you do not understand the properties or principles required to work the problem.

To avoid this type of error in the future, you must go back to your textbook or notes and learn why you missed the problems.

Application errors — mistakes that you make when you know this concept but

cannot apply it to the problem.

To reduce this type of error, you must learn to predict the type of application problems that will be on the test.

(continued on 18)

#### 6 TYPES OF TEST-TAKING ERRORS

(continued from 17)

- Test Procedure errors mistakes that you make because of the specific way you take tests, such as:
  - a. Missing more questions in the 1st-third, 2nd-third or last third of a test.

If you find that you miss more questions in a certain part of the test consistently, use your remaining test time to review that part of the test first.

 b. Not completing a problem to its last step.

To avoid this mistake, review the last step of a test problem first, before doing an in-depth test review.

c. Changing test answers from the correct ones to incorrect ones.

If you are a bad answer changer, then write on your test "Don't change answers." Only change answers if you can prove to yourself or to the instructor that the changed answer is correct.

d. Getting stuck on one problem and spending too much time. Set a time limit for each problem before moving to the next problem.

(continued on 19)

#### 6 TYPES OF TEST-TAKING ERRORS

(continued from 18)

- e. Rushing through the easiest part of the test and making careless errors. If you do this often, after finishing the test review the easy problems first, then review the harder problems.
  - f. Miscopying an answer from your scratch work to the test.

To avoid this, systematically compare your last problem step on scratch paper with the answer on the test.

- g. Leaving answers blank. Write down some information or try at least to do the first step.
  - h. Not following the ten steps to better test-taking.

Deviating from these proven ten steps will cost you points!

 Study errors — mistakes that occur when you study the wrong type of material or do not spend enough time studying pertinent material.

> To avoid these errors in the future, take some time to track down why the errors occurred so that you can study more effectively the next time.

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#### CONTENTS

10 Steps To Better Test-Taking Reducing Test Anxiety 10 Steps For Reading Material -Other Than Math Reworking Your Notes 10 Steps For Reading Math Materials If You Don't Understand The Math Reading Material . . . Steps For Doing Your Math Homework Translating English Terms Into Algebraic Symbols Translating English Words Into Algebraic Expressions Steps For Taking An Objective Test Answering An Essay Test With Several Questions Key Words On Essay Tests 6 Types Of Test-Taking Errors Light Years Ahead In Learning Order Form

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