Day 1 Graph for  $J = \frac{J^2}{2\gamma^2} \left[ \log_{+}(x+3\sqrt{x}) \right]$ *15* nswer What does this answer fell What have you learned about this problem? Northis problem? Northis Northing. Why? -Don't know how to get the answer! - Didn't learn anything - Shown the avower & lenow the skills - process is missing INDICATIVE OF YOUR KNOWLEDGE? So WHAT'S MORE HUPORTANT .... The answer OR ... the process? The process!! What you think matters. Please share it in class. Ka Jz is Math 252. BTW: everything else in this problem is Math 72 ... jundled together.

### MATH DIAGNOSTIC

This does not count toward your grade in this class! ③ No calculators.

- 1) Simplify -2 (-3)(4)
- 2) Simplify 2<sup>4</sup>
- 3) Simplify  $-2^4$
- 4) Simplify  $(-2)^4$
- 5) Simplify  $-5 + 3^2$
- 6) Reduce  $\frac{35}{42}$ .
- 7) Add  $\frac{2}{5} + \frac{3}{4}$
- 8) Simplify -2(x+3) + 4(1-x)
- 9) Solve -2x + 1 = 3x 4
- 10) Write 3% as a decimal.

	Name Course & Section
11)	Find 10% of 60.

12) Draw axes and graph  $y = \frac{1}{2}x + 3$ .

- 13) Simplify  $x^5 \cdot x^{11}$
- 14) Simplify  $\frac{x^{11}}{x^5}$
- 15) Simplify  $(x^3)^4$
- 16) Factor  $6x^2 3x$
- 17) Factor  $x^2 4$
- 18) Solve  $x^2 4x + 3 = 0$

Assess yourself and your experience of doing these questions.

19) How hard (or easy) were these questions for you? [Please include any comments you'd like!]

20) How much was brand-new for you? [Please include any comments you'd like!]

Math Study Skills Inventory

Name\_\_\_

# Course & Section

## Total Study Skills Inventory Score \_\_\_\_

This checklist will help you measure your study habits in mathematics. Respond to each item as honestly as possible. Circle the frequency with which you do each of the following behaviors.

	Never	Rarely	Sometimes	Almost always
Selecting a Math Class				
1. I schedule math every semester until I am done with	0	1	2	3
my math requirements.		-	-	•
2. I'm sure I've signed up for the correct level math	0	1	2	3
course.			-	•
3. I found the best teacher for me before I registered.	0	1	2	3
4. I chose a math class that meets at a time when I am	0	1	2	3
mentally sharp.	<u> </u>			-
5. I choose a class that meets 3-4 days a week, not 1-2.	0	1	2	3
Math Class Attendance		L		
6. I attend all of my math classes. I never miss.	0	1	2	3
7. I come to class on time and even try to be early.	0	1	2	3
8. I stay for my entire math class.	0	1	2	3
9. If I miss a class, I get the notes I missed.	0	1	2	3
Before Math Class				
10. I read my notes, textbook and/or math assignment.	0	1	2	3
11. I know what assignments will be due.	0	1	2	3
12. I complete assignments before I arrive.	0	1	2	3
During Math Class				
13. I keep a math binder.	0	1	2	3
14. I take notes in math class.	0	1	2	3
15. In class, I have a method for taking good notes.	0	1	2	3
16. I date my notes.	0	1	2	3
17. I keep my notes in good order.	0	1	2	3
18. I copy all the steps of math problems in my notes.	0	1	2	3
19. If I get lost, I identify where I got lost.	0	1	2	3
20. I ask questions when I am confused.		1	2	3
Anxiety & Attitude about Math				
21. If math anxiety exists, I acknowledge it.	0	1	2	3
22. I believe that I can succeed in math class	0	1	2	3
23. I find study partners in my math class.		1	2	3
24. I know several good relaxation techniques.		1	2	3
25. I reward myself for having studied and concentrated.		1	2	3
26. I have someone to offer moral support.		1	2	3
27. I know what it takes to be successful in a math class.		1	2	3
28. I will do what it takes to be successful in math class.		1	2	3
29. I know my multiplication facts 1-10.	0	1	2	3
Subtotal page 1:				

	Never	Rarely	Sometimes	Almo alwa
30. I have identified the support services available to me.	0	1	2	3
31. I am comfortable asking for help.	0	1	2	3
32. If I start to feel lost, I try to determine exactly when and what confused me.	0	1	2	3
33. If I still feel lost, I go back to a problem or place where I was doing okay.	0	1	2	3
34. I get help right away when I need it (instructor, lab, study partner, etc.).	0	1	2	3
Time Management for Math Class				
35. I study math every day.	0	1	2	3
36. I have a specific time to study math.	0	1	2	3
37. I study math when I am most alert, before other subjects.	0	1	2	3
38. For every hour of class, I study and do homework 2-4 (or more) hours, each week.	0	1	2	3
39. I take small breaks every 40-60 minutes when I study.	0	1	2	3
40. I read the syllabus calendar to identify due dates.	0	1	2	3
41. I use a calendar or planner to plan work before it's due.	0	1	2	3
42. When math assignments are difficult, I work to complete them in several small blocks of time.	0	1	2	3
Procrastination				
43. I use the "pomodoro" method of 'just do it' for 20 min.	0	1	2	3
Place for Studying Math				
44. I study in a quiet, well-lit place away from distractions.	0	1	2	3
Math Homework				
45. If I have trouble understanding, I find another source.	0	1	2	3
46. When I see a word I don't understand, I look it up.	0	1	2	3
47. I go to the instructor or lab when I am confused.	0	1	2	3
48. I complete all assignments and stay caught up.	0	1	2	3
Preparing For Math Tests				
49. I keep up-to-date so that I don't cram the night before.	0	1	2	3
50. I work to understand all formulas, terms, rules, and principles before I memorize them.	0	1	2	3
51. I find out as much as possible about each test.	0	1	2	3
52. I take practice tests.	0	1	2	3
53. I use the chapter summary, chapter review, and chapter tests in my textbook for studying.	0	1	2	3
Taking Math Tests				
54. I preview the test before I begin.	0	1	2	3
55. Before I begin the test, I make notes of formulas I need.	0	1	2	3
56. I take the full amount of time allotted for the test.	0	1	2	3
57. I carefully check or rework as many problems that I	•	-		•
have time to before I turn in my test.	U	T	2	3
Subtotal page 2:				

## Total up your scores. PAGE 1 \_\_\_\_\_ + PAGE 2 \_\_\_\_\_ = TOTAL \_\_\_\_\_

**If your score is 145-171**, you have excellent math study skills, but might pick up a few tips from this list. **If your score is 128-144**, you are using good math study skills, but you can improve by adding a few ideas from this list.

**If your score is 111-127**, your math study skills are fair, and you may experience study-skill-related difficulties in math class. Please select several skills from the list above and add them to your behaviors.

**If you score is below 111**, you have probably had a difficult time in math class, but <u>math may not be your</u> <u>trouble</u>! More than likely, your main problem is the study strategies you are using (or not using). Start doing as many of the things on the list above as you can, and keep adding skills until you are earning the grade in math that you desire.

#### Want an A in your math class? Try these.

	Never	Rarely	Sometimes	Almost always
58. My goal for each class is to learn as much as possible.		1	2	3
59. I try to connect new concepts to what I already know.	0	1	2	3
60. I try to do my math homework right after math class.	0	1	2	3
61. I review my class notes within 24 hours.	0	1	2	3
62. I do the same problem over – until I can do it without	0	1	2	2
pause before going on to other problems.	U	-	2	3
63. I work problems until I understand them, not just until I	•	1	2	2
get the right answer for homework.	U	-	2	3
64. I work on new and review problems every day.	0	1	2	3
65. I can tell you what kind of a problem it is and the steps	0	1	2	2
needed to solve it.	U	4		3
66. I work to over-learn and master the material.	0	1	2	3
67. I do weekly reviews of my class and homework notes.	0	1	2	3
68. I use a variety of checking procedures.	0	1	2	3
69. When tests are returned, I count the types of mistakes I	•	1	2	2
made: concept, application, or avoidable errors.	U			3
70. In class, I mentally follow all explanations, trying to	0	1	1 2	3
understand concepts and principles. I stay focused.	U			
71. I review my notes and rework examples before starting	•	1	2	2
homework.	U	-		3
72. I review and rework the examples in my notes.		1	2	3
73. When the test is returned, I do test corrections	0	1	2	2
promptly.	U			3
74. I use memory techniques to remember math concepts,				
formulas and vocabulary, such as flash cards, reciting		1	2	3
aloud, writing, picturing, etc.				
75. I test myself often to confirm I've memorized ideas.	0	1	2	3
Total A-level skills:				

 $(4) \quad x \cdot x \cdot x = \boxed{x^3}$ 

5 10 = 10.10.10 = 1000

 $6 4 \times 10^3 = 4 \times 1000 = 4000$ 

 $7 10^3 = \frac{1}{10^3} = \frac{1}{1000} = \boxed{001}$ 

repeated addition is multiplication => combine like terms

repeated multiplication is exponent

positive exponents result in big numbers

order of op: exp before mult.

neg exponent is a positive exp in denominator

(8) 4 × 10<sup>3</sup> = 4 × .001 = [.004]

negative exponents result in small numbers

Exponent Laws





$$3 \quad \frac{\chi^2}{\chi^2} = \frac{\chi}{\chi} \cdot \frac{\chi}{\chi} = 1.1 = 1$$
$$= \chi^{2-2} = \chi^{0}$$







$$(b)(xy)^{3} = xy \cdot xy \cdot xy$$
  
=  $x \cdot x \cdot x \cdot y \cdot y \cdot y = [x^{3}y^{3}]$   
(xy) =  $xy$ 







 $\left(10\right) \left(\frac{3}{4}\right)^{-2} = \left(\frac{4}{3}\right)^2 = \boxed{\frac{16}{9}}$ 

 $(9) 2 \times 1y^{-3} = \begin{bmatrix} 2 \\ xy^{3} \end{bmatrix}$ 

