

Self-Assessment: Essential or Excessive?

A study on the impact of student self-assessment in the math classroom

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Abstract

The value of the regular practice of student self-assessment is both championed and disregarded among K-12 educators. While some claim its merit and results override the fact that content instruction time is lost due to its presence in the classroom, others argue that in the age of high-stakes testing time cannot be spent on such a practice. This study uses two cohorts to discover the effects of regular, ongoing student self-assessment practice in a middle school mathematics class. The first cohort serves as a baseline, spanning the 2010-2011 school year, in which self-assessment was not specifically taught or encouraged. The second cohort (2011-2012) covered the same curriculum as the first cohort (including assessments), yet habitually practiced self-assessment throughout the learning process. Students were taught how to self-assess, given a structure by which to monitor their progress, and were provided with multiple opportunities to demonstrate mastery of content in order to accommodate their needs as determined by their self-assessment. The focus of the self-assessment model students learned was that understanding mathematics is a spectrum (making it unreasonable to claim “I just don’t get math” in a holistic, defeatist manner), and thus everyone can evaluate what they know and identify the next step in the learning process. As a result of this practice, the second cohort, on average, outscored the first cohort on every final score of the unit assessments, as well as the summative MCA-III standardized test. While there are changes to be made to the implementation of this program for future cohorts of students, the conclusion reached after analysis of this study is that self-assessment improves student achievement, leads to greater confidence among students, and should therefore be a regular practice in a mathematics classroom.

Introduction

Assessment is a cornerstone of education – the ability to measure progress is essential to ensuring effective and worthwhile instruction. The forms of assessment are many and varied (traditional or authentic, formative or summative, constructed response or multiple choice), causing debate among those in education as to best practice in this area. At times it seems as though assessment is merely a required process that occurs, after which the teacher and student simply move on to new content, despite the results. While these forms of assessment all provide information concerning a student’s progress, how can this information become valuable to the student, and how can it be used to further understanding? How can assessment be made a meaningful process that incites immediate action or change by a student rather than minimal acknowledgement before tossing it away?

The purpose of this project is to see if having my students consistently use the process of self-assessment in my mathematics class improves their understanding, achievement and motivation. I do not wish to abandon all other methods of assessment, rather to observe the effect self-assessment has in conjunction with the other, more traditional, forms of assessment. I find in my classroom that students often see mathematics as something you either do or do not understand (leading to comments such as “I am just not good at math”) – they fail to see understanding mathematics as a *spectrum*, and because of this they are easily discouraged from persevering toward improvement and understanding of the material.

Literature Review

Researchers in the field of education are finding that to be successful, students need to be able to monitor and evaluate their own progress without the assistance of teacher-driven assessment (McDonald & Boud, 2003). The technique of self-assessment needs to be taught and used on a regular basis to ensure mastery of content and success on traditional summative assessments.

Self-assessment is a formal process "...by which students 1) monitor and evaluate the quality of their thinking and behavior when learning and 2) identify strategies that improve their understanding and skills" (McMillan & Hearn, 2008, p. 40). The cyclical nature of this process requires students to be focused on what they are trying to learn (objective), what their level of mastery currently is (status of proficiency) and what they need to do to increase or demonstrate their mastery (goal and achievement). The focus is on improvement – students are all at varying levels of understanding, but all can increase their achievement. This is why self-assessment works well for the spectrum of learners, including low- and high-achieving students (Chappuis, 2009). In the realm of assessment, self-assessment is an integral part of promoting student motivation and engagement while improving student achievement.

The immediacy of self-assessment helps to keep students motivated and engaged. "Providing helpful information as learning occurs..." keeps students focused on the objectives at hand and makes gathered information meaningful (McMillan & Hearn, 2008, p. 42). A student's self-efficacy is increased when they are shown how to evaluate their progress and make adjustments. As active participants in their learning, students have more invested in their learning objectives (McMillan & Hearn, 2008). Students understand that they have more control over their

education – it is something they do, not something that is done to them, and thus have a vested interest in what and how they learn.

The process of self-assessment encourages students to develop perseverance in their learning. When given clear learning targets, students who have been taught how to self-assess understand that improvement is the focus of learning. In order to improve, however, students need to understand how to set manageable goals and develop a plan to achieve those goals. The dynamic framework that is the structure of self-assessment causes students to constantly evaluate their progress and make adjustments to meet their own goals or the goals set before them. As with the rest of the self-assessment process, goal-setting is not intuitive – students must be given instruction on how to set goals to improve their mastery. (Chappuis, 2009).

One of the most effective methods of teaching students this form of assessment is to model the process of self-assessment and goal-setting. Teachers are at times delegating the responsibility of evaluation to students, and that process needs to be accompanied by support (McMillan & Hearn, 2008). Students cannot be expected to be successful assessors of their own work without proper instruction. Teachers must see having students self-assess as a “...process of students becoming apprentices in judgment” (McDonald & Boud, 2003, p. 210). Initially, teachers need to show students how *they* assess student work for mastery, using a variety of examples that exemplify the spectrum of mastery levels. Next, students need to be given the opportunity to assess work of varying levels, to begin creating the standard by which they will evaluate their own work. The progression of this scaffolded process leads to students eventually

being able to judge their own work in a critical, productive manner after which they understand if they have attained mastery, yet are still pushed to improve.

An example of implementing self-assessment and goal-setting is to have students complete a “Status, Target, Plan” activity for a learning objective. Students assess their current “status” with regards to the objective, develop a goal to “target,” and devise a “plan” to reach their goal. Additionally, if needed, a student lists who they plan to ask to help them complete their plan. This process, discussed by Chappuis, is a simple yet meaningful activity (2009). It is important to have students reflect on their performance after the plan is carried out to determine if they have hit their target or if further action is necessary to demonstrate mastery. This reflection is what continues the spiral of the process, pushing students to improve, reach their new goals and raise their achievement level.

When students are held accountable for their learning on a personal level, they are forced to invest in accomplishing the goals they are being pushed to achieve. It has been shown that “...student performance can be improved simply by having students self-report their learning” (McMillan & Hearn, 2008, p. 45). A study by Brookhart, Andolina, Zuza, and Rurman of third grade students attempting to memorize the math facts tables found that students who were taught to self-assess and set goals had high achievement on their summative assessments. Students charted their progress and made plans to improve throughout their pursuit of mastery. When asked to predict their weekly achievement on their tests, the students did very well. Teachers found that students needed to be encouraged “...to be confident in their own thought processes” and that the process of self-assessment was effective in doing so (Brookhart et al.,

2004, p.225). Overall, the students enjoyed being involved in the process of self-assessment as they were able to visually see their progression toward their mastery of the math facts instead of focusing their efforts on performance goals (the end result). In addition, students were able to be active participants in their learning, deciding how they were going to make improvements in their mastery versus being required to learn their facts a certain way (Brookhard et al., 2004). Higher achievement via self-assessment is not limited to a certain content area. In a study of high school students of varying achievement levels it was found that “on average, students with self-assessment training outperformed their peers who had been exposed to teaching without such training in all curriculum areas” (McDonald & Boud, 2003, p. 217). The performances of the students in this study were compared through external examinations (standardized tests). Some argue, though, that spending instruction time teaching students the process of self-assessment is wasteful in this era of rigorous state standards and standardized tests. “In the current era of high-stakes accountability there is considerable pressure to focus only on student performance and to minimize the extent to which self-assessment is taught, experienced and encouraged” (McMillan & Hearn, 2008, p. 48). On the contrary, others argue that not only does self-assessment promote efficient learning and retention, it requires students to really think about what they are learning, how they are learning it and why it is important. Students are pushed to see the connectedness of their knowledge, as they see how the mastery of certain topics must be attained before other mastery can be accomplished. “Evaluating what they learned, what they still need to work on, and how they can get there can all support deeper understanding rather than superficial knowledge” (McMillan & Hearn, 2008, p. 46). Considering the ultimate goal of education, self-assessment both provides students the opportunity to become independent,

lifelong students who enjoy learning while mastering rigorous content and understanding how to demonstrate and use their knowledge.

This does not mean, however, that traditional summative assessments need to be disregarded. A study by Smith and Gorard found that students perform better when given traditional feedback from teachers (marks and grades) in addition to formative assessment and self-assessment (2005). The various forms of assessment must work together as a cohesive model to impact student achievement in a powerful way. This also means that the process of adopting self-assessment in the classroom is an augmentation, not an overhaul, of classroom mindset.

Students need to be taught how to self-assess not only for its immediate value in their education, but also its value as a lifelong skill. To be an effective learner, a person must understand how to determine what needs to be learned, find ways to master the material, and then demonstrate their mastery in a method that is discernable to others (Deed, 2010). Having an educator directing learning is only realistic in a traditional school setting, yet to be successful in life one must be able to learn beyond one's formal education. The process of self-assessment is crucial to current and future success.

Justification for the Development of this Project

As a teacher in Independent School District 622 in Maplewood, MN, beginning in the 2010-2011 school year I started participating in the district-wide initiative "Assessment for Learning", a program designed by Jan Chappuis. The goal of this program is to increase student achievement through effective assessment techniques. One of the various methods Chappuis says should be implemented in the classroom is student self-assessment and goal setting (Chappuis, 2009).

According to her program, self-assessment practices “...increase achievement and motivation” and does so for the entire spectrum of students (from low-achieving to high-achieving) (Chappuis, 2009, p. 96). Not only is my study in line with the goals set forth by my district, it also connects to the efforts being made to increase student achievement in eighth grade mathematics, specifically according to the Minnesota State Standards that require that all eighth grade students should complete the linear portion of Algebra I (Mathematics Standards, 2007). The formulation of algebraic processes in the mind of a student is a complex and unique process – teaching a student how to assess their own progress towards understanding basic linear algebra will facilitate their overall comprehension. Furthermore, in alignment with national initiatives to close the achievement gap, the process of self-assessment is said to promote the learning of all students, aiding to bring the low-achieving students up while continuing to push the high-achieving students (Chappuis, 2009).

Working with eighth graders, I believe it is of great importance to teach my students how to perform well in a math class before they go off to high school. I believe being trained in the process of self-assessment will aid in this effort, showing students how to evaluate their level of understanding and make a plan to improve. Also, I find that students in this age group have often formed an opinion as to whether or not they are a “math person” and accept their fate to consistently fail should they deem themselves “just not good at it”. This is a disheartening mindset to work with as I prepare them to complete a minimum of three years of high school math; thus, I am looking to change this attitude via self-assessment practices.

My study is different from what has been studied before in that I am specifically using self-assessment as a means to have students grasp the idea that mathematical understanding is a spectrum and so doing I believe their motivation will increase and with it their achievement in mathematics. I am attempting to propel students into the mindset that they can improve their ability in math, no matter what their current level of understanding. In this way I am making efforts to connect with all students, ranging from under-achieving students who need ample support to high-achieving students in need of opportunities for enrichment.

Design of the Curriculum Development Project

The research question for this proposal is:

Is there a correlation between the process of self-assessment and a student's achievement in Algebra?

The instruction of the participants of this study span two school years: 2010-2011 and 2011-2012. Students in both groups were held to the same set of Minnesota state standards (Mathematics Standards, 2007).

During the 2010-2011 school year, I taught one section (37 students – permission to use data of 32) of Intermediate Algebra (the accelerated curriculum for eighth grade students in our district, consisting of the linear and nonlinear portions of a traditional Algebra I curriculum) from the McDougall-Littel *Algebra I* curriculum. I attempted minimal self-assessment activities with this group of students. Throughout the instructional lessons, I often asked my students to rate their understanding “fist to five”, with the common understanding that “fist” meant they didn’t

understand at all while “five” meant they completely understood the material. I found that generally students either choose “fist” or “five” and almost never choose a number in between, showing me they didn’t understand the intermediate steps to full mastery. On occasion as we would work through particular styles of problems (factoring a binomial, for example), we would work out a few problems as a class and students were asked to identify “where they were going wrong” if they were struggling. This process of asking them to identify their place of confusion was rarely simple – I had to continually go over the class work step by step, pulling them through the process of assessing where they were getting lost.

Typically, after each summative assessment (unit test), I had students reflect on their preparation for the assessment and predict the grade they would earn on their unit test (both scaled on a traditional A-F scale). Students were also given the opportunity to write comments concerning the unit. After receiving their graded test, each student would look to see how their preparation effort and predicted grade correlated to their earned grade. While we had discussion about this, the connection was not always made. When I compared the data, I often found that students were all over the board in terms of how accurate they were with predicting their earned grade. There were always the classic students who predicted low, showing low confidence, while some were overly optimistic despite their lack of preparation. By the end of the year (last three chapters) I started piloting pieces of the self-assessment process I used with the 2011-2012 cohort of students, with minimal instruction as to what to do or why it was important. I wanted to see how students would react to documenting their progress and manage the form throughout a chapter.

In 2011-2012, students received similar instruction yet self-assessment was be explicitly taught and used regularly. I designed a Student Learning Plan for each chapter, which was only done on a preliminary level for the last three chapters of 2010-2011. The same assessments were given: each chapter includes two quizzes and a unit test (which includes an optional retake) and the MCA-III spring test (state required exam). This cohort of students began the school year using the self-assessment model described below.

Initially, students were introduced to the “Spectrum of Understanding” (Appendix A). Through class discussion and comparing student work to the spectrum, we developed a common understanding of the 1-5 rating system. This system is used in their “Student Learning Plan” (SLP) as a means of tracking their self-assessed progress at various times throughout each unit (Appendix B). The SLP requires students to evaluate their level of mastery of each individual learning target within the unit at four or five points (after notes/instruction, homework completion, quiz, test, and, if needed, retake). If under a 3, students were strongly encouraged to take action (possibilities were found on the SLP or discussed in class). Throughout the year students were asked to given their opinion on the SLP format and it was changed accordingly to meet their wishes. This is why the SLP was changed slightly between chapters.

During the 2011-2012 school year, after students took a quiz, they were given the option to complete a “Revision Worksheet” for each learning target they missed (Appendix C). They earned full points back on any quiz target by accurately completing the revision worksheet. They were allowed to use any notes, their textbook, or have their peers help them to complete the worksheet. As their teacher, I would provide guidance as to how to solve a problem if they

asked for help, but if I had to tell them specifically how to solve it on their revision worksheet they were required to complete an additional problem. For chapters 3, 4 and 5, before completing the revision worksheet, students received "Assessment Analysis" worksheets after quizzes and tests to help them self-assess their results (Appendix D). In chapters 6, 7 and 8, students only received the assessment analysis worksheet after their test. This process of quiz revisions did not exist for the 2010-2011 cohort. The quizzes taken by each cohort were almost identical (almost all the same problems, but in 2011-2012 the questions were arranged and labeled by learning target whereas in 2010-2011 the questions were mixed), but in 2010-2011 a student's quiz score was final.

Before each student took a chapter test, the student and I met on day one of our chapter review to go over their SLP and design a review plan for the test. At first, I used the information on the SLP to design a review for the student; after modeling this process for a couple of chapters, students were given the opportunity to assess their SLP and design their own review for their test. The second day of review was focused primarily on the individualized review plan according to the student's needs indicated on the SLP. In 2010-2011, students were only given one day of review and every student completed the same general review assignment.

After students took a test, they were given the opportunity to retake any or all of their learning targets on the test. Before this could be done, they were required to complete test corrections on their original test, proving that they had now mastered the learning target. The retake version of the test was similar to the original but not identical – the problems were designed to require mastery of the target, not just the original test problems. Students had the opportunity to earn

full points back on any learning target they choose to retake. This process of test retakes existed in a modified version for the 2010-2011 cohort. They were required to complete test corrections before retaking (as in 2011-2012), however they were required to retake the entire test (even the parts they had demonstrated mastery on the first attempt). In both years, the test questions were almost identical, but as with the quizzes in 2011-2012 the test questions were organized by learning target (which was not the case in 2010-2011). (See Appendix E for assessment examples.)

Aside from the adjustments to the traditional assessments, there are a few other limitations of this study in terms of its consistency between the two school years. First of all, according to the standardized test NWEA (known as the MAP test), at the end of 7th grade the 2010-2011 cohort had an average score of 253.8 while the 2011-2012 group had an average score of 255.9. When looking at the data collection from this study, it is important to note that academically speaking, the 2011-2012 cohort started slightly ahead of the 2010-2011 cohort. Also, the 2011-2012 group is a bit of a special circumstance in that in addition to the 32 students who have had a comparable curriculum to their 2010-2011 predecessors, an additional 30 students are mixed into the group – these new students completed a “catch-up” class the previous spring that allowed them to be in the accelerated track. Thus, there were two sections in 2011-2012. However, for the purposes of this study, the two groups have been separated for the data analysis to ensure fair comparisons (the “catch-up” students’ data has been excluded). Also, I looped with the 2011-2012 cohort from 7th to 8th grade (this did not happen with the 2010-2011 cohort). By knowing the teacher and the curriculum, the 2010-2011 cohort was exposed to in 7th grade, I believe this study is still a viable comparison, and the effect of looping with one of the cohorts is not a factor

that outweighs the analysis of the implementation of my designed program. Finally, while both cohorts took the MCA-III test in the spring (the prime data source for monitoring student growth in this study), the state of Minnesota switched testing companies between the two years. While the exact same standards were assessed on the test and as educators we have been assured that the tests are comparable and data can be used to show growth, there is no way to know for certain if any changes were made that would alter the data.

Results

As a result of the self-assessment program described above, the 2011-2012 cohort increased their achievement level on both the MCA-III test in the spring and on the chapter tests throughout the year (Only Chapters 3-8 were included in this study for consistency purposes – due to pacing, they were the only tests that could be used for both cohorts. Specific data can be found in Appendix F.) On the first three chapter tests, the 2011-2012 cohort outscored the 2010-2011 on the first attempt, and then maintained a higher percentage after the retake process. I found that on the last three tests, students in 2011-2012 had become better at self-assessing their progress toward mastering learning targets which resulted in them focusing their efforts on truly demonstrating mastery of some learning targets on the test, knowing that they would have time later to demonstrate mastery of the other targets on the retake. Because of this, the 2011-2012 cohort continued to outscore the 2010-2011 cohort after the retakes were completed. As the retake results replace the initial test scores, 2011-2012 students did better on the chapter tests. While some might consider this a negative result of the study, I propose that since the second group still outperformed the first group in the end, the second group was driven to learn more

and do better than the first group was – they are convinced that they can and should master the learning targets set forth before them.

The 2011-2012 cohort earned an average of 868.8 on the MCA-III test. This is an improvement from the 2010-2011 average of 863.9. Even though the 2011-2012 cohort started slightly higher than the 2010-2011 cohort (based on MAP scores at the end of their 7th grade year), this increase on the MCA-III still shows that achievement levels were higher with the self-assessment program in place.

Compared to the similar designs mentioned in my literature review, my study showed (as they did) that achievement levels increase with the implementation of self-assessment. Given that my data reflects small sample sizes with various outside factors, I conclude that while it shows success, further study and refinement in my classroom is required to fully support my thesis that student learning is increased with the use of self-assessment.

Various examples of student work can be found in Appendix G. The following is a sampling of anecdotal data collected from students during the year (in response to the question “Do you find the SLP useful?”):

“Yes, it helped my track my progress.”

“Yes, I thought it was useful because it help[ed] me stay organized.”

“It was useful because it told me what my homework was for the night, and told me what I should work on.”

“Yes, because it shows what section I should work harder on.”

“Yes, I found it useful to track my progress and to know the HW assignment.”

“Yes because it tells you what you can do to study for the test.”

“I did find the learning plan useful. It helped me to stay organized with my work and it showed me what I needed to practice.”

“It was semi-useful, helped to know which homework I did.”

“I did find the learning plan useful because I can easily track my progress. I can always know where I’m at...I like the learning plan.”

“I thought the learning plan was annoying when I understood, but helpful when I needed it.”

“It helped me know what I needed to focus on and what I was doing well on.”

“Yes, because I think I did better than I would’ve without.”

“Yes because it helps me understand and focus on what I’m weak at.”

Reflection

The findings of this study have greatly influenced my teaching practices as well as the teaching practices of my department and possibly the grade level teachers of our district. Despite the district initiative to utilize the program (*Assessment for Learning*) in my classroom, the results of my study determined the extent I utilize the self-assessment aspect of the program – I am *constantly* using and improving upon this implementation. Once I saw the benefits of my project in my accelerated classes, I started to implement pieces of the program in my sections of regular 8th grade math. Next year, I plan to implement this process of self-assessment (along with revision and retakes) in all of my classes from the beginning of the school year. This year, I found as I tried to implement self-assessment and goal setting with my regular classes mid-year,

that students struggled more to make it part of their routine given that it was a change from what they had been doing. I was met with no such resistance with my accelerated classes in this study and I believe part of the reason is that their program was started at the beginning of the school year. This is one change I will make in the future – starting the school year with a simple version of self-assessment and continuing to build it up, accommodating for my students' needs with additions and changes throughout the school year.

Another change I will make in the future is to include more goal-setting alongside of the self-assessment. Inherently, students were setting goals for themselves as they saw their progress throughout chapters; however, I want this to be a more formalized process that they students can take more ownership of as they track their learning.

The results of my project are not only directly in line with the *Assessment for Learning* educational model, but also with Vygotsky's learning model of the "Zone of Proximal Development" (ZPD). Vygotsky argued that the best learning occurs when students are pushed just beyond where their current academic comfort level is, giving them enough support to be successful and not feel as though they are doomed to fail. The process of self-assessment helps students find their ZPD instead of relying on an adult to determine it for them. My students could assess their current comfortable level for a learning target (the range was from "I don't know what this target means" to "I can do this target most of the time"), then identify the next step in their learning, which included assistance from me or one of their peers (moving them along the Spectrum of Understanding, one step at a time). Building on Vygotsky's premise, I was able to create an environment for my students that allowed failure to be an option, because

we knew how to recover from it. The focus is entirely on growth and moving along the spectrum at whatever pace is needed. Students were given just enough support to keep them from being complacent learners who were resolved to stay at their current level of understanding, yet no student was pushed too far beyond their comfort level so that they resolved that the task was impossible.

My MSE coursework was a direct inspiration for this project, along with my district's professional learning plan. In my Advanced Education Psychology class, I wrote a group paper on "Assessment", in which my group and I looked at various types and uses of assessment. While I knew based on my district professional learning that I wanted to focus my project on assessment, my MSE coursework directed my focus on student self-assessment. Also, my ability to design a research project was due to my Methods in Research coursework. Finally, my math coursework from the MSE program has deepened my understanding of the interconnectedness of mathematical concepts, to the point that I can now push my students level of understanding farther than I was able to before as I can see what future learning endeavors require to be successful.

My professional development has greatly benefitted from doing this project. I have become increasingly involved in a professional learning community at my school with the focus of implementing *Assessment for Learning*, a key part of which is student self-assessment. I have helped various teachers design self-assessment in their classroom and collaborated with others to design progress-monitoring models. I have been given considerable feedback on this process and I have developed and made adjustments accordingly. Recently, my principal sent me to

attend Jan Chappuis' training on *Assessment for Learning* (one of the primary authors and designers of the program) so that I can be a teacher-leader at my school next year. District-wide I have been collaborating with other middle school math teachers to find ways to implement self-assessment and other aspects of *Assessment for Learning* successfully in our classrooms. We have been sharing curriculum designed around this program and comparing data (most of which has shown student growth throughout these first two years of implementation).

This project has been a turning point in my career. I have seen a complete shift in my classroom environment, in the attitude and mindset of my students, and in my reflective practice as a professional. Students are no longer crippled by math anxiety – they are no longer afraid to try nor convinced they are simply “not a math person”. Each student is given a clear target to hit, the tools to see how close they are to hitting it, and the means to improve their efforts with each attempt. As an educator I am encouraged and renewed as a result of this study. I am confident that as I continue to refine and expand this program in my classroom that I will see further increases not only in achievement levels, but also in student confidence level and interest in studying mathematics – the ultimate goal for all math teachers truly invested in their students.

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Appendices

Appendix A: "Spectrum of Understanding"

Appendix B: Student Learning Plans

Chapter 3

Chapter 4

Chapter 5

Chapter 6

Chapter 7

Chapter 8

Appendix C: Assessment Analysis

Quiz 3.1-3.4

Quiz 3.5-3.7

Chapter 3 Test

Appendix D: "Revision Worksheet"

Appendix E: Assessments

Quiz 3.1-3.4

Quiz 3.5-3.7

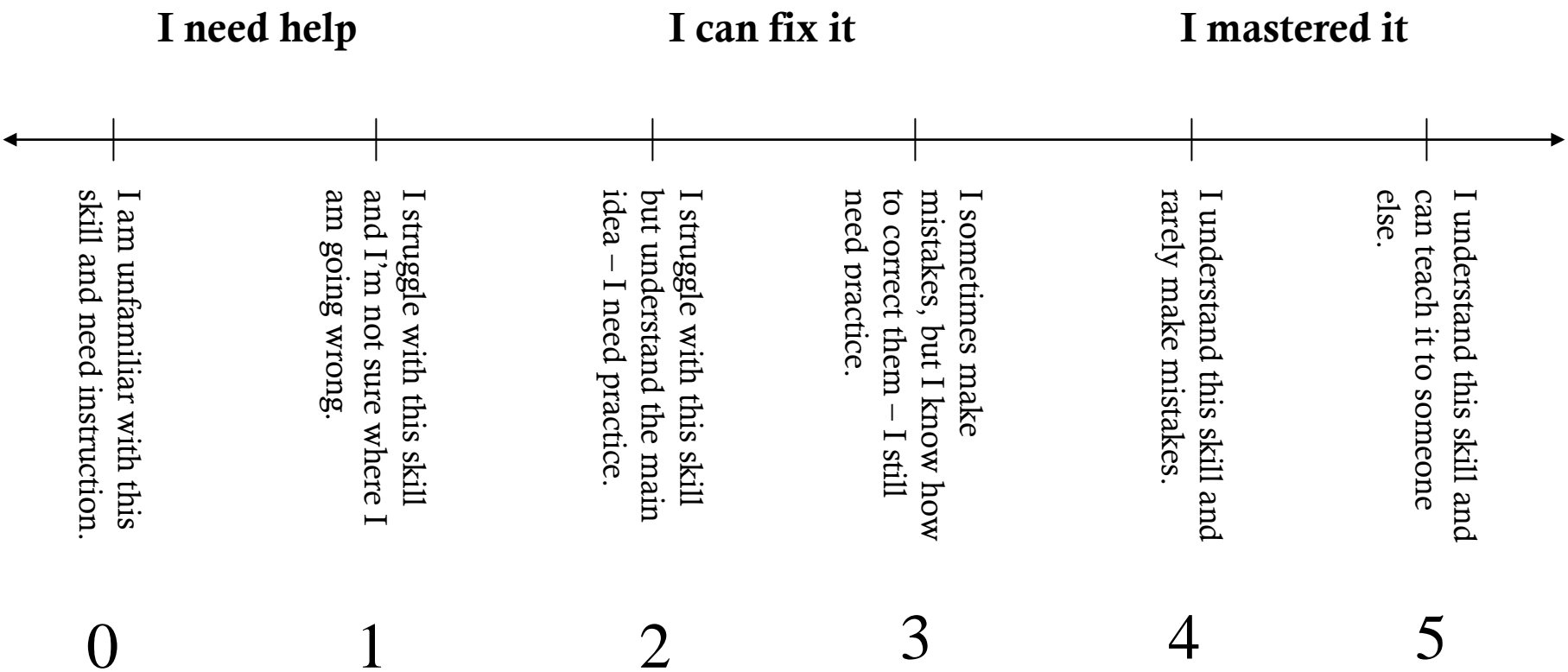
Chapter 3 Test

Chapter 3 Retake

Appendix F: Data

Appendix G: Student Work

Spectrum of Understanding



Chapter 3 Learning Plan

Level of Mastery (L.O.M.):

- 5 – I understand this skill and can teach it to someone else.
- 4 – I understand this skill and rarely make mistakes.
- 3 – I sometimes make mistakes, but I know how to correct them – I still need practice.
- 2 – I struggle with this skill but understand the main idea – I need practice.
- 1 – I struggle with this skill and I’m not sure where I am going wrong.

Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can solve one-step equations algebraically.	3.1		Pg. 137-140 #1, 14, 21, 27, 44, 46, 50, 51								Y N
I can solve two-step equations.	3.2		Pg. 144-146 #2, 6, 10, 16, 20-22, 24, 37, 43								Y N
I can solve multi-step equations.	3.3		Pg. 150-153 #3, 6, 10-14, 18, 23-26, 33, 38								Y N
I can solve equations with variables on both sides.	3.4		Pg. 157-159 #3, 8, 10, 13, 15, 22, 40, 46								Y N
I can explain why an equation is an identity or has no solution.	3.4		Pg. 157-159 #1, 2, 26-28, 32, 37								Y N
I can use equations to solve real-life problems.	Mixed Review 3.1-3.4		Pg. 161 #1-8								Y N
I can write proportions.	3.5		Pg. 165-167 #49-51, 56*, 57*								Y N
I can solve proportions.	3.5, 3.6		Pg. 165-167 #7, 21, 22 Pg. 171-173 #8, 9, 12, 18, 20, 23, 34, 39 Pg. 175 #5								Y N
I can use proportions to solve real-world problems.	Catch & Release Activity		Finish Catch and Release Packet								Y N
I can solve percent problems.	3.7		Pg. 179-181 #1, 2, 4, 8, 9, 18, 20, 21, 26-29, 32, 33, 35, 39								Y N
I can solve real-life problems with proportions & percents.	Mixed Review 3.5-3.7		Pg. 190 #1-3, 5, 6, 8								Y N
	Chapter Review										

*Spiral Review – not for the learning target

Chapter 4 Learning Plan

Level of Mastery (L.O.M.):

- 5 – I understand this skill and can teach it to someone else.
- 4 – I understand this skill and rarely make mistakes.
- 3 – I sometimes make mistakes, but I know how to correct them – I still need practice.
- 2 – I struggle with this skill but understand the main idea – I need practice.
- 1 – I struggle with this skill and I'm not sure where I am going wrong.

Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can identify and plot points on the coordinate plane.	4.1		Pg. 209-212 #22-25, 36, 38, 53, 54								Y N
I can graph linear equations using a table.	4.2		Pg. 219-221 #3-9, 13, 18, 20-25, 27, 35, 38								Y N
I can graph a linear equation on my calculator.	Act. 4.2		Pg. 222 #1-4								Y N
I can classify discrete and continuous functions.	Extn. 4.3		Pg. 224 #1-9								Y N
I can graph linear equations using intercepts.	4.3		Pg. 229-232 #3, 4, 8, 9, 13, 18, 24, 25, 32, 36, 40, 45, 46								Y N
I can use graphs to solve real-life problems.	Mixed Review 4.1-4.3		Pg. 233 #1-6								Y N
I can calculate the slope of a line.	4.4		Pg. 239-242 #1-10, 12, 16-18, 24, 25, 33, 34								Y N
I can interpret slope as a rate of change.	4.4		Pg. 239-242 #19, 20, 37								Y N
I can graph linear equations using slope-intercept form.	4.5		Pg. 247-250 #1-13, 17-20, 22-25, 30, 32, 34, 40, 42								Y N
I can use function notation.	4.7		Pg. 265-268 #1, 3-6, 12, 14-16, 22, 23, 26, 29, 35, 39, 40								Y N
I can use graphs and slope to solve real-life problems.	Mixed Review 4.4-4.7		Pg. 269 #1, 3-6								Y N
	Chapter Review										

*Spiral Review – not for the learning target

Chapter 5 Learning Plan

Level of Mastery (L.O.M.):

- 5 – I understand this skill and can teach it to someone else.
- 4 – I understand this skill and rarely make mistakes.
- 3 – I sometimes make mistakes, but I know how to correct them – I still need practice.
- 2 – I struggle with this skill but understand the main idea – I need practice.
- 1 – I struggle with this skill and I'm not sure where I am going wrong.

Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can write an equation of a line in slope-intercept form given its slope and y-intercept.	5.1		Pg. 286-289 #4, 5, 9, 10, 13-15, 17-23, 30-32, 43, 45, 46								Y N
I can write an equation of a line in slope-intercept form given points on the line.	5.2		Pg. 296-299 #6-8, 10-12, 17, 18, 24-26, 29, 35, 36, 38, 39, 43, 47, 51								Y N
I can write an equation of a line in point-slope form.	5.3		Pg. 305-308 #1, 3, 5, 8, 9, 13, 16, 19-24, 29, 37, 40, 41								Y N
I can write an equation of a line in standard form.	5.4		Pg. 314-316 #1-3, 5, 6, 11-14, 30, 33, 34, 38, 45-48*								Y N
I can use the forms of equations to solve real-world problems.	Mixed Review 5.1-4		Pg. 317 #1-4, 6-8								Y N
I can write equations of parallel and perpendicular lines.	5.5		Pg. 322-324 #1-9, 12-14, 18, 21, 22, 24, 25, 32, 35								Y N
I can make a scatter plot.	5.6		Pg. 328-331 #1-9, 13-15, 18								Y N
I can write equations to model data.											Y N
I can use my calculator to perform linear regression.	Act. 5.6		Pg. 333 #1-5								Y N
I can make predictions using a line of best fit.	5.7		Pg. 338-341 #1, 2, 4, 5, 15, 17, 18, 22ab								Y N
I can find the zero of a function.	5.7		Pg. 338-341 #7, 8								Y N
	Chapter Review										

*Spiral Review – not for the learning target

Chapter 6 Learning Plan

Level of Mastery (L.O.M.):

- 5 – I understand this skill and can teach it to someone else.
- 4 – I understand this skill and rarely make mistakes.
- 3 – I sometimes make mistakes, but I know how to correct them – I still need practice.
- 2 – I struggle with this skill but understand the main idea – I need practice.
- 1 – I struggle with this skill and I'm not sure where I am going wrong.

Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can solve inequalities using addition and subtraction.	6.1		Pg. 359-361 #1, 2, 4-6, 10, 17, 21-25, 32								Y N
I can solve inequalities using multiplication and division.	6.2		Pg. 366-368 #11-14, 25, 28-30, 32, 36, 37								Y N
I can solve multi-step inequalities.	6.3		Pg. 372-374 #4, 8, 9, 11, 13, 15-18, 21, 23, 28-30, 38, 40								Y N
I can explain the difference between <i>and</i> and <i>or</i> .	Activity 6.4		Pg. 379 #1-8								Y N
I can using inequalities to solve real-world problems.	Mixed Review		Pg. 389 #2, 3, 4, 6								Y N
I can solve compound inequalities.	6.4		Pg. 384-387 #2-4, 7-9, 14, 16, 17, 22-24, 26, 39, 44								Y N
I can solve absolute value equations.	6.5		Pg. 393-395 #8, 9, 12, 13, 15, 16, 20-22, 24, 27, 44, 46								Y N
I can solve absolute value inequalities.	6.6		Pg. 401-403 #4, 6, 10-12, 17, 18, 23, 24, 35, 48-50*								Y N
	Chapter Review										

*Spiral Review – not part of the learning target

Chapter 7 Learning Plan

Level of Mastery (L.O.M.):

- 5 – I understand this skill and can teach it to someone else.
- 4 – I understand this skill and rarely make mistakes.
- 3 – I sometimes make mistakes, but I know how to correct them – I still need practice.
- 2 – I struggle with this skill but understand the main idea – I need practice.
- 1 – I struggle with this skill and I'm not sure where I am going wrong.

Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can graph linear inequalities in two variables.	6.7		pg. 409-412 #2, 4, 7, 16, 18, 24-26, 56, 57								Y N
I can solve linear systems using tables.	Act. 7.1		pg. 426 #1-5								Y N
I can solve linear systems by graphing.	7.1		pg. 430-433 #3, 4, 8-10, 12, 22, 27, 33, 35								Y N
I can solve linear systems by substitution.	7.2		pg. 439-441 #2-4, 9, 11, 19, 31, 32, 36								Y N
I can solve linear systems using elimination.	7.3		pg. 447-450 #2, 4, 6, 12, 14, 16, 21, 23, 30, 39, 40								
I can solve linear systems using multiplication (elimination).	7.4		pg. 454-457 #2-4, 9, 10, 19, 20, 27, 30, 37, 38								
I can identify the number of solutions of a linear system.	7.5		pg. 462-465 #1-7, 14, 16-21								Y N
I can solve systems of linear inequalities.	7.6		pg. 469-472 #3-8, 10, 15, 16, 24, 25, 30, 36, 37								Y N
	Chapter Review										

*Spiral Review – not part of the learning target

Assessment Analysis – Quiz 3.1-3.4

Problem #	Learning Target	Right	Wrong	Simple Mistake (I can fix it)	Don't Get It (I need help)
1	I can solve one-step equations algebraically.				
2	I can solve one-step equations algebraically.				
3	I can solve two-step equations.				
4	I can solve two-step equations.				
5	I can solve two-step equations.				
6	I can solve multi-step equations.				
7	I can solve multi-step equations.				
8	I can solve multi-step equations.				
9	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
10	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
11	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
12	I can use equations to solve real-world problems.				

Assessment Analysis – Quiz 3.1-3.4

Problem #	Learning Target	Right	Wrong	Simple Mistake (I can fix it)	Don't Get It (I need help)
1	I can solve one-step equations algebraically.				
2	I can solve one-step equations algebraically.				
3	I can solve two-step equations.				
4	I can solve two-step equations.				
5	I can solve two-step equations.				
6	I can solve multi-step equations.				
7	I can solve multi-step equations.				
8	I can solve multi-step equations.				
9	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
10	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
11	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
12	I can use equations to solve real-world problems.				

Assessment Analysis – Quiz 3.5-3.7

Problem #	Learning Target	Right	Wrong	Simple Mistake (I can fix it)	Don't Get It (I need help)
1	I can write proportions.				
2	I can write proportions.				
3	I can solve proportions.				
4	I can solve proportions.				
5	I can solve proportions.				
6	I can solve proportions.				
7	I can use proportions to solve real-world problems.				
8	I can solve percent problems.				
9	I can solve percent problems.				
10	I can solve percent problems.				

Assessment Analysis – Quiz 3.5-3.7

Problem #	Learning Target	Right	Wrong	Simple Mistake (I can fix it)	Don't Get It (I need help)
1	I can write proportions.				
2	I can write proportions.				
3	I can solve proportions.				
4	I can solve proportions.				
5	I can solve proportions.				
6	I can solve proportions.				
7	I can use proportions to solve real-world problems.				
8	I can solve percent problems.				
9	I can solve percent problems.				
10	I can solve percent problems.				

Assessment Analysis – Chapter 3 Test

Problem #	Learning Target	Right	Wrong	Simple Mistake (I can fix it)	Don't Get It (I need help)
1	I can solve two-step equations.				
2	I can solve one-step equations algebraically.				
3	I can solve multi-step equations.				
4	I can solve multi-step equations.				
5	I can solve multi-step equations.				
6	I can solve multi-step equations.				
7	I can solve multi-step equations.				
8	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
9	I can write proportions.				
10	I can write proportions.				
11	I can solve proportions.				
12	I can solve proportions.				
13	I can use proportions to solve real-world problems.				
14	I can use proportions to solve real-world problems.				
15	I can solve percent problems.				
16	I can solve percent problems.				
17	I can solve percent problems.				

Assessment Analysis – Chapter 3 Test

Problem #	Learning Target	Right	Wrong	Simple Mistake (I can fix it)	Don't Get It (I need help)
1	I can solve two-step equations.				
2	I can solve one-step equations algebraically.				
3	I can solve multi-step equations.				
4	I can solve multi-step equations.				
5	I can solve multi-step equations.				
6	I can solve multi-step equations.				
7	I can solve multi-step equations.				
8	I can solve equations with variables on both sides. I can explain why an equation is an identity or no solution.				
9	I can write proportions.				
10	I can write proportions.				
11	I can solve proportions.				
12	I can solve proportions.				
13	I can use proportions to solve real-world problems.				
14	I can use proportions to solve real-world problems.				
15	I can solve percent problems.				
16	I can solve percent problems.				
17	I can solve percent problems.				

Name: _____ Hour: _____ Date: _____

Learning Target: _____

Problem Number(s) (from quiz): _____

What went wrong? Use your Cornell Notes and explain why your answer was not correct.

Recovery/Practice: Show evidence that you have mastered the learning target.

1) **Rework a problem for this target that you missed on your quiz** - Problem # _____

2) **Solve a similar problem** (create from your Cornell notes, do another missed problem from quiz in this learning target, select a problem from a list provided)

3) **Solve another similar problem**

Checked by: Self

Teacher

Read each problem carefully and **SHOW YOUR WORK**

I can solve one-step equations algebraically.

I can solve two-step equations.

_____ **1.** What is the first step in solving the equation $9 - \frac{10}{n} = 2$?

- a. Subtract 2 to each side.
- c. Divide each side by -10.

- b. Subtract 9 from each side.
- d. Add 9 to each side.

Solve the equation, if possible. Write your answer in the blank.

2. $19 = m - 3$

2. $m =$ _____

I can solve equations with variables on both sides.

I can solve multi-step equations.

I can explain why an equation is an identity or has no solution.

_____ **3.** Examine the problem at right. Which line contains an error?

- a. Line 2
- c. Line 3
- b. Line 4
- d. Line 5

$-3(x - 4) + 6x = -6$	Line 1
$-3x - 12 + 6x = -6$	Line 2
$3x - 12 = -6$	Line 3
$3x = 6$	Line 4
$x = 2$	Line 5

4. What is the solution of the equation $20x - 4(x - 5) = 52$? **Check your solution.**

For numbers 5 – 8, solve the equation, if possible. Write your answer in the blank.

5. $-3n + 18 + 5n = -38$

5. $n =$ _____

6. $\frac{2}{5}(k + 5) = 8$

6. $k =$ _____

7. $5t - 2(t - 2) = -11$

7. $t =$ _____

8. $3(4w - 2) = 12w + 7$

8. $w =$ _____

I can write proportions.

_____ 9. Which proportion represents the statement: 3 is to 7 as w is to 28?

a. $\frac{3}{w} = \frac{28}{7}$

b. $\frac{7}{3} = \frac{w}{28}$

c. $\frac{3}{28} = \frac{7}{w}$

d. $\frac{3}{7} = \frac{w}{28}$

_____ 10. Which ratio represents the number of houses to apartments?

Houses	Apartments	Condos
243	372	195

a. $\frac{124}{65}$

b. $\frac{81}{124}$

c. $\frac{65}{124}$

d. $\frac{81}{65}$

I can solve proportions.

_____ **11.** What is the value of m in the proportion $\frac{5}{6} = \frac{m}{98}$?

a. $5.8\bar{3}$

b. 81.6

c. 117.6

d. 490

12. Solve the proportion $\frac{3}{b} = \frac{9}{b+4}$

I can use proportions to solve real-world problems.

13. A recipe for carmelita bars calls for $2\frac{1}{4}$ cups of flour to make 5 dozen bars. How many cups of flour are needed to make 8 dozen bars?

14. On Saturday, biologists tagged 300 frogs from a swamp land. On Tuesday, the biologists counted 16 tagged frogs out of a sample of 800 frogs from the same swamp land. Use math to estimate the total number of frogs in the swamp land.

I can solve percent problems. Show all work.

_____ **15.** What number is 13% of 60?

a. 7.80

b. 4.62

c. 461.54

d. 780

_____ **16.** What percent of 80 is 12?

a. 9.6%

b. 667%

c. 87%

d. 15%

17. In a construction project, an amphitheater increased its 80,000-seat capacity by 20%. How many seats will be available when the project is completed?

When you are finished with your retake, answer the following questions *honestly*.

What grade do you expect to get on this retake? _____

What grade would you give yourself on you preparation for this retake? _____

Anything else I should know?

Read each problem carefully and SHOW YOUR WORK

I can solve one-step equations algebraically.

I can solve two-step equations.

_____1. What is the first step in solving the equation $9 - \frac{10}{n} = 2$?

- a. Subtract 2 to each side.
- c. Divide each side by -10.

- b. Subtract 9 from each side.
- d. Add 9 to each side.

Solve the equation, if possible. Write your answer in the blank.

2. $-7 = -2 + x$

2. $x =$ _____

I can solve equations with variables on both sides.

I can solve multi-step equations.

I can explain why an equation is an identity or has no solution.

_____3. Examine the problem at right. Which line contains an error?

- a. Line 2
- c. Line 4
- b. Line 3
- d. Line 5

$6x - 2(x - 5) = 22$	Line 1
$6x - 2x - 10 = 22$	Line 2
$4x - 10 = 22$	Line 3
$4x = 32$	Line 4
$x = 8$	Line 5

4. What is the solution of the equation $15t - 3(t - 7) = 5$? **Check your solution.**

For numbers 5 – 8, solve the equation, if possible. Write your answer in the blank.

5. $7m - 4 - 2m = 6$

5. $m =$ _____

6. $\frac{3}{4}(c + 4) = 9$

6. $c =$ _____

7. $5(3 - 2y) + 4y = 3$

7. $y =$ _____

8. $4x - 1 = 2(2x + 3)$

8. $x =$ _____

I can write proportions.

_____ 9. Which proportion represents the statement: 5 is to 4 as x is to 24?

a. $\frac{5}{x} = \frac{24}{4}$

b. $\frac{5}{4} = \frac{x}{24}$

c. $\frac{5}{24} = \frac{4}{x}$

d. $\frac{4}{5} = \frac{x}{24}$

_____ 10. Which ratio represents the number of dogs to birds?

Dogs	Cats	Birds
243	372	195

a. $\frac{81}{124}$

b. $\frac{65}{81}$

c. $\frac{81}{65}$

d. $\frac{124}{65}$

I can solve proportions.

_____ **11.** What is the value of p in the proportion $\frac{2}{3} = \frac{p}{35}$?

a. $23\bar{3}$

b. 52.5

c. 70

d. 105

12. Solve the proportion $\frac{8}{m+3} = \frac{4}{m}$

I can use proportions to solve real-world problems.

13. A recipe for oatmeal raisin cookies calls for $1\frac{3}{4}$ cups of flour to make 4 dozen cookies. How many cups of flour are needed to make 6 dozen cookies?

14. On Monday, biologists tagged 150 sunfish from a lake and released them back into the lake. On Friday, the biologists counted 12 tagged fish out of a sample of 400 sunfish from the same lake. Use math to estimate the total number of sunfish in the lake.

I can solve percent problems. Show all work.

_____ **15.** What number is 65% of 92?

a. 1.4154

b. 59.8

c. 141.54

d. 5980

_____ **16.** What percent of 150 is 30?

a. 2%

b. 5%

c. 20%

d. 500%

17. In a renovation project, a football stadium increased its 60,000-seat capacity by 15%. How many seats will be available when the project is completed?

When you are finished with your test, answer the following questions *honestly*.

What grade do you expect to get on this test? _____

What grade would you give yourself on your homework for this chapter? (not just completion, but effort, accuracy, fixing mistakes, etc.) _____

What grade would you give yourself for the effort you have put into this chapter? (both in class and out of class, including seeking extra help as needed) _____

Anything else I should know?

Quiz 3.1 - 3.4
Intermediate Algebra

Name _____

Hour _____

For numbers 1 – 8, solve the equation. Show all of your work. **Check your solution.**

I can solve one-step equations algebraically.

1. $-112 = 7n$

1. $n =$ _____

2. $\frac{f}{-3} = -30$

2. $f =$ _____

I can solve two-step equations.

3. $\frac{d}{5} + 1 = 7$

3. $d =$ _____

4. $\frac{9}{4}t - 2 = 25$

4. $t =$ _____

5. $-28 = 10w - 3w$

5. $w =$ _____

I can solve multi-step equations.

6. $24 = 13z - 4z + 6$

6. $z = \underline{\hspace{2cm}}$

7. $7(h + 3) + 4 = -3$

7. $h = \underline{\hspace{2cm}}$

8. $\frac{2}{3}(4x - 7) = -2$

8. $x = \underline{\hspace{2cm}}$

I can solve equations with variables on both sides.

I can explain why an equation is an identity or has no solution.

9. $8x - 4 = 6x + 10$

9. $x = \underline{\hspace{2cm}}$

10. $5 - 2y = -2(y - 6)$

10. $y = \underline{\hspace{2cm}}$

11. $6x + 12 = 3(2x + 4)$

11. $x = \underline{\hspace{2cm}}$

I can use equations to solve real-life problems.

- 12.** A contractor purchases ceramic tile to remodel a kitchen floor. The contractor is charged \$4 for each tile. Additional expenses (adhesive and grouting materials) cost \$17.82 total. If the contractor is charged a total of \$545.82, how many ceramic tiles did the contractor purchase?

Write an equation, define any variables, show your work and explain your solution.

Quiz 3.5-3.7
Intermediate Algebra

Name: _____

Date: _____

I can write proportions.

1. At a pet show, the ratio of dogs to cats is 4:3. If the number of cats is 45, what is the number of dogs?
2. Write a proportion that represents the statement: 6 is to 3 as x is to 10? (do not solve it)

I can solve proportions.

For numbers 3 – 6, solve the proportion. Show all of your work. Check your solution.

3. $\frac{t}{39} = \frac{5}{13}$

4. $\frac{1.9}{2.1} = \frac{b}{8.4}$

5. $\frac{j+4}{6} = \frac{18}{12}$

6. $\frac{d+4}{2d+2} = \frac{3}{4}$

I can use proportions to solve real-world problems.

7. Last week, biologists tagged 80 deer from a forest. Today, the biologists counted 12 tagged deer out of a sample of 50 deer from the same forest. Estimate the total number of deer in the forest. Show all work.

I can solve percent problems. Show all work.

_____ **8.** What number is 55% of 36?

_____ **9.** What percent of 120 is 24?

_____ **10.** 15 is 30% of what number?

Students 2010-11	MAP RIT end 7th	MCA III end 8th	Chapter 3 Test out of 38.5 (taken 38)		original	change	Chapter 4 Test out of 45 (taken 43)		original	change	Chapter 5 Test out of 35		original	change	Chapter 6 Test out of 50 (taken 49)		original	change	Chapter 7 Test out of 27		original	change	Chapter 8 Test out of 42		original	change
			original	change			original	change			original	change			original	change			original	change			original	change		
Student 1	251	867	35	35			41	41			31	31			48	48			22	22			31.5	31.5		
Student 2	247	857	33.5	29	4.5		38.5	34	4.5		31.5	31.5			44.5	44.5			18	18			37.5	31.5		
Student 3	262	864	35	35			44	30.5	13.5		27	27			41	41			19	19			36	36		
Student 4	258	855	35	35			40	40			29	29			38.5	38.5			19	19			39	39		
Student 5	256	864	35	35			39	39			32.5	32.5			48	48			21.5	21.5			39	39		
Student 6	237	852	33	29.5	3.5		27	27			23	23			38.5	30	8.5		15	15			38.5	26.5		
Student 7	248	863	36.5	36.5			41.5	41.5			30	30			49	49			28	28			42	42		
Student 8	245	858	30	30			34	34			15.5	15.5			31.5	31.5			15.5	15.5			20	20		
Student 9	256	859	32	32			43	43			32	32			45.5	45.5			22.5	22.5			38.5	38.5		
Student 10	244	862	39	22.5	6.5		30	30			28	28			37.5	37.5			15.5	15.5			31.5	31.5		
Student 11	258	865	34	34			43	43			34	34			47	47			28.5	28.5			42	42		
Student 12	264	885	38	38			38.5	38.5			35	35			50	50			22.5	22.5			42	42		
Student 13	261	871	32.5	32.5			45	45			33.5	33.5			49.5	49.5			22.5	22.5			39	39		
Student 14	244	861	33	33			41.5	41.5			22.5	22.5			42	42			20	20			28	28		
Student 15	247	865	32.5	22.5	10		34	33.5	1.5		29	26	3		33	33			23.5	23.5			34.5	25.5		
Student 16	252	863	34.5	34.5			44	44			35	35			48	48			25.5	25.5			38	38		
Student 17	250	863	28.5	28.5			41.5	39.5	2		35	35			43.5	43.5			25	25			37	37		
Student 18	268	866	34.5	34.5			34	34			32	32			40	40			26.5	26.5			37.5	37.5		
Student 19	248	859	34.5	31	3.5		28.5	28.5			28	22.5	5.5		45.5	45.5			16.5	16.5			25	25		
Student 20	252	865	33.5	22.5	10		40	36.5	3.5		28.5	28.5			44.5	44.5			13	13			37	37		
Student 21	254	872	35	35			39	39			35	35			48	48			20	20			41	41		
Student 22	259	873	38.5	38.5			43	43			32.5	32.5			47	47			25.5	25.5			41	41		
Student 23	253	855	32	32			38.5	38.5			30	30			43.5	43.5			24.5	24.5			34.5	34.5		
Student 24	244	852	36	22.5	13.5		42.5	32	10.5		29	29			47	47			23	23			35.5	35.5		
Student 25	249	853	26	26			33	33			28.5	28.5			39	39			12.5	12.5			28.5	21.5		
Student 26	259	870	34	34			42	42			34	34			50	50			26	26			39.5	39.5		
Student 27	261	866	33	33			37.5	37.5			27.5	27.5			44.5	44.5			17	17			36	36		
Student 28	260	867	32	32			42	42			32.5	32.5			46	46			18	18			36.5	36.5		
Student 29	256	878	38.5	38.5			43.5	43.5			33	33			48.5	48.5			28	28			42	42		
Student 30	268	875	36	36			42.5	42.5			35	35			50	50			29	29			39.5	39.5		
Student 31	238	852	31	31			35	35			25.5	21.5	4		33	33			16	16			29	29		
Student 32	263	869	31	31			40.5	40.5			31	31			43	43			25.5	25.5			40	40		
Total	7868	27646	1072.5	1020	51.5		1247	1212.5	35.5		975.5	963	12.5		1404.5	1396	8.5		684.5	684.5	0		1146.5	1122.5		
Averages	253.806	863.9375	33.5156	31.875	7.357		38.96875	37.8906	5.9167		30.4844	30.09375	4.1667		43.8906	43.625	8.5		21.3906	21.3906	0		35.8281	35.0781		
			87.05%	82.79%			86.60%	84.20%			87.10%	85.98%			87.78%	87.25%			79.22%	79.22%			85.30%	83.52%		

The yellow highlighted scores indicate the retake score.

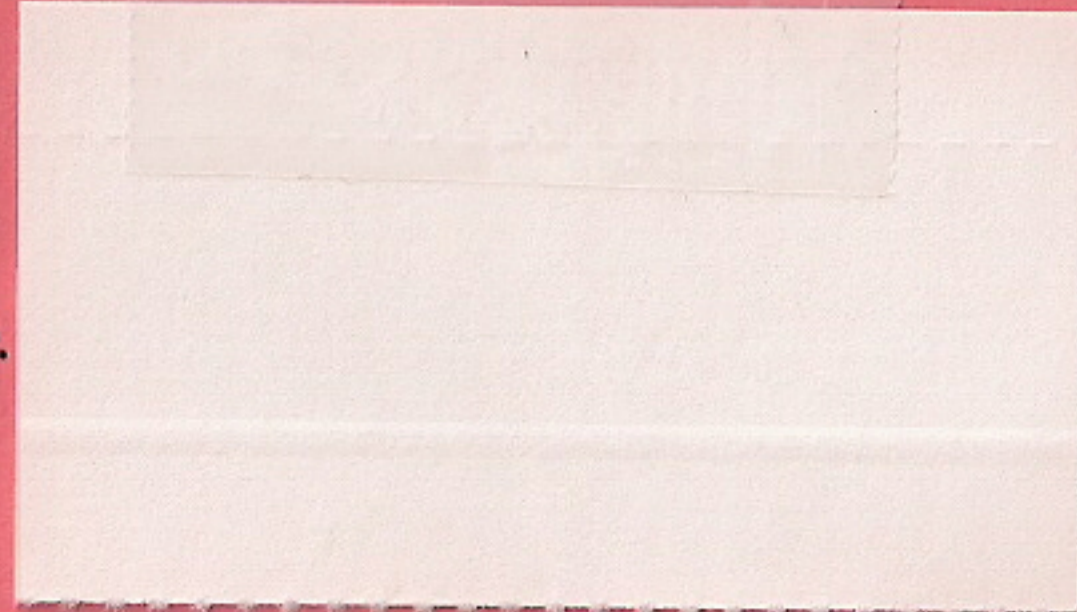
The green highlighted scores indicate the final class average after retakes.

Students 2011-12	MAP RIT end 7th	MCA III end 8th	Chapter 3 Test out of 38		original	change	Chapter 4 Test out of 49		original	change	Chapter 5 Test out of 39		original	change	Chapter 6 Test out of 51		original	change	Chapter 7 Test out of 27		original	change	Chapter 8 Test out of 42		original	change
			original	change			original	change			original	change			original	change			original	change			original	change		
Student 1	262	879	36	36			49	46.5	2.5		39	39			51	48	3		27	25	2		41	39		
Student 2	259	870	35	35			47	47			35	35			50	50			24	24			36.5	36.5		
Student 3	255	868	36	36			45	45			33	33			39	39			15	10						
Student 4	258	869	38	26.5	11.5		49	32.5	16.5		35	35			42.5	29.5	13		18	18			40.5	29		
Student 5	257	866	38	38			49	49			36.5	36.5			50	43.5	6.5		24.5	20	4.5		34.5	23.5		
Student 6	247	865	33.5	33.5			47	47			33.5	33.5			44	44			9.5	9.5			36	36		
Student 7	254	870	37.5	37.5			44	44			39	39			49	49			22.5	22.5			40.5	40.5		
Student 8	261	881	35	35			49	40.5	8.5		37	37			48.5	48.5			26	22.5	3.5		42	42		
Student 9	266	885	37.5	37.5			49	42.5	6.5		37	37			49.5	49.5			26	23	3		40	37.5		
Student 10	261	869	34.5	34.5			49	42.5	6.5		35	35			46.5	46.5			18	18			34	34		
Student 11	260	868	38	35	3		43	43			32	32			49	49			13.5	13.5			32.5	32.5		
Student 12	274	878	38	38			45.5	45.5			37	37			51	51			22.5	22.5			38.5	38.5		
Student 13	264	880	38	38			45.5	45.5			37.5	37.5			50.5	50.5			27	27			40	40		
Student 14	253	863	29	29			49	39.5	9.5		28.5	28.5			38.5	38.5			23	23			37	37		
Student 15	249	861	36.5	36.5			44	44			35.5	28.5	7		47	37.5	9.5		23	14	9		38	30		
Student 16	248	867	38	27	11		41	41			35.5	35.5			47.5	47.5			23	19	4		36	29.5		
Student 17	261	872	38	27.5	10.5		44	44			32	32			48	45	3		27	20	7		37.5	35		
Student 18	262	869	38	34	4		45	45			36.5	36.5			46.5	46.5			24.5	24.5			41	41		
Student 19	254	871	37.5	37.5			49	49			37	37			45.5	45.5			20	20			39.5	39.5		
Student 20	251	859	33	33			45	45			30.5	30.5			43	43			24	24			40	30		
Student 21	259	871	38	36.5	1.5		49	44	5		39	35.5	3.5		49	44	5		26	25	1		41	40		
Student 22	246	868	34	34			44	44			34.5	34.5			48	48			16	16			30	30		
Student 23	247	862	34	34			45	45			31.5	31.5			44	44			27	19.5	7.5		37.5	29.5		
Student 24	259	866	31.5	31.5			27.5	27.5			32.5	28.5	4		46.5	46.5			25.5	11.5	14		29	29		
Student 25	256	870	32.5	32.5			49	39	10		33.5	33.5			43.5	43.5			27	20	7		34	34		
Student 26	251	862	32	32			44.5	44.5			32.5	32.5			47.5	47.5			21	21			36	36		
Student 27	262	876	36	30.5	5.5		46	46			37	37			45.5	45.5			24	24			39	33		
Student 28	247	858	30	30			31	31			23	16.5	6.5		23.5	23.5			26	26			26	26		
Student 29	252	864	31.5	31.5			46.5	46.5			36	36			47	44.5	2.5		26	26			38.5	38.5		
Student 30	254	868	36	36			43	43			38	38			46	46			26.5	26.5			36.5	36.5		
Student 31	249	864	38	38			41	41			38.5	38.5			42	42			16	16			36.5	36.5		
Student 32	252	864	33	33			46.5	46.5			36.5	36.5			47.5	47.5			20.5	20.5			39	39		
Total	8190	27803	1127.5	1084.5	43		1441	1376	65		1114.5	1093.5	21		1466.5	1424	42.5									

Chapter 7 Learning Plan

Level of Mastery (L.O.M.):

- 5 - I understand this skill and can teach it to someone else.
- 4 - I understand this skill and rarely make mistakes.
- 3 - I sometimes make mistakes, but I know how to correct them - I still need practice.
- 2 - I struggle with this skill but understand the main idea - I need practice.
- 1 - I struggle with this skill and I'm not sure where I am going wrong.



Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can graph linear inequalities in two variables.	6.7	3	pg. 409-412 #2, 4, 7, 16, 18, 24-26, 56, 57	none	5	review	4/4	5	yes	2/2	Y <input type="radio"/> N <input checked="" type="radio"/>
I can solve linear systems using tables.	Act. 7.1	3	pg. 426 #1-5	none	5	review	2/2	5	yes	2/2	Y <input type="radio"/> N <input checked="" type="radio"/>
I can solve linear systems by graphing.	7.1	4	pg. 430-433 #3, 4, 8-10, 12, 22, 27, 33, 35	none	5	review	3.5/4	4	yes	2/2	Y <input type="radio"/> N <input checked="" type="radio"/>
I can solve linear systems by substitution.	7.2	4	pg. 439-441 #2-4, 9, 11, 19, 31, 32, 36	36, 32 fixed	4	review	5/5	5	yes	4/4	Y <input type="radio"/> N <input checked="" type="radio"/>
I can solve linear systems using elimination.	7.3	4	pg. 447-450 #2, 4, 6, 12, 14, 16, 21, 23, 30, 39, 40	12, 16 fixed	4	review	6/6	5	yes	4/4	N <input type="radio"/> Y <input checked="" type="radio"/>
I can solve linear systems using multiplication (elimination).	7.4	5	pg. 454-457 #2-4, 9, 10, 19, 20, 27, 30, 37, 38	none	5	review	3/3	5	yes	5/11	Y <input type="radio"/> N <input checked="" type="radio"/>
I can identify the number of solutions of a linear system.	7.5	4	pg. 462-465 #1-7, 14, 16-21	none	5	review	3/3	5	yes	6/6	Y <input type="radio"/> N <input checked="" type="radio"/>
I can solve systems of linear inequalities.	7.6	4	pg. 469-472 #3-8, 10, 15, 16, 24, 25, 30, 36, 37	37 fixed	4	review					Y <input type="radio"/> N <input checked="" type="radio"/>
	Chapter Review		Chapter Test: pg. 479 #2, 8, 11, 14, 15, 19, 20, 28-29								

*Spiral Review - not part of the learning target

50/50

Chapter 8 Learning Plan

Level of Mastery (L.O.M.):

- 5 - I understand this skill and can teach it to someone else.
- 4 - I understand this skill and rarely make mistakes.
- 3 - I sometimes make mistakes, but I know how to correct them. I still need practice.
- 2 - I struggle with this skill but understand the main idea - I need more practice.
- 1 - I struggle with this skill and I'm not sure where I am going.

Important Dates	
Quiz 8.1-8.3	
Quiz 8.4-8.6	
Project Due	
- all HW	Now

Plan of action ideas	
1) Review notes (in class or online)	
2) Practice new problems	
3) Look in textbook	
4) Use classzone.com (@HomeTutor)	
5) Ask a classmate for help	
6) Ask parent or teacher for help	

Learning Target	Section	After notes L.O.M.	HW	HW done?	HW that needs fixed? Topics to work on?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?
I can use the properties of exponents with products.	8.1	5	Pg. 492-494 #3, 4, 7, 9, 12, 13, 19, 20, 24, 25, 32, 33, 36, 39, 42, 44, 47	✓		4		9/10	4	✓
I can use the properties of exponents with quotients.	8.2	4	Pg. 498-501 #1, 4, 7, 10, 11, 14, 16, 21, 25, 30, 31, 36, 38, 39	✓		4		2/4	4	✓
I can evaluate expressions with a zero exponent.	8.3	4	Pg. 506-508 #8, 10, 35	✓		4		4/5	4	✓
I can simplify expressions with negative exponents.	8.3	4	Pg. 506-508 #5, 6, 12, 13, 15, 16, 20, 24, 26, 28, 30, 32, 33, 36, 39, 42	✓		4		4/5	4	✓
I can apply the properties of exponents to operations with numbers in scientific notation (multiply, divide, powers)	8.4	4	Pg. 515-518 #1, 6-8, 11, 12, 20, 22, 24, 33, 35, 39, 40, 43-45, 52, 54	✓		4		4/5	4	✓
I can write and graph exponential growth models.	8.5	4	Pg. 523-527 #4-9, 13, 15, 20, 22, 28, 34	✓		4				
		5	Pg. 523-527 #1, 2, 21, 38-40, 43, 44, 47-49	✓		4				
I can write and graph exponential decay models	8.6	4	Pg. 535-537 #3-7, 12, 16, 19, 32-34	✓		4				
		4	Pg. 535-537 #1, 2, 21, 23, 27, 35-40, 47, 48	✓		4				
I can use exponential models to solve real-world problems.	Project		Packet	✓						
I can identify the domain and range of exponential functions.	8.5 & 8.6		Pg. 523-527 #13, 15, 20, 44 Pg. 535-537 #7, 12, 16							
	Ch. Review	4.5/4.5		✓						

Chapter 7 Learning Plan

Level of Mastery (L.O.M.):

- 5 - I understand this skill and can teach it to someone else.
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- 2 - I struggle with this skill but understand the main idea - I need practice.
- 1 - I struggle with this skill and I'm not sure where I am going wrong.



Plan of action ideas	<ol style="list-style-type: none"> 1) Review notes (in class or online) 2) Practice new problems 3) Look in textbook 4) Use classzone.com (@HomeTutor) 5) Ask a classmate for help 6) Ask parent or teacher for help
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Learning Target	Section	After notes L.O.M.	HW	HW that needs fixed?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?	Test score	Need to retake?
I can graph linear inequalities in two variables.	6.7	5	pg. 409-412 #2, 4, 7, 16, 18, 24-26, 56, 57	no	4	nothing	2/4	4	Done		Y N
I can solve linear systems using tables.	Act. 7.1	5 5	pg. 426 #1-5	no	5	nothing	2/2	5	Done		Y N
I can solve linear systems by graphing.	7.1	4	pg. 430-433 #3, 4, 8-10, 12, 22, 27, 33, 35	no	4	nothing	2/4	4	Done		Y N
I can solve linear systems by substitution.	7.2	4	pg. 439-441 #2-4, 9, 11, 19, 31, 32, 36	no	4	nothing	4.5/5	5	Done		Y N
I can solve linear systems using elimination.	7.3	4	pg. 447-450 #2, 4, 6, 12, 14, 16, 21, 23, 30, 39, 40	no	4	nothing	6/6	5	Done		Y N
I can solve linear systems using multiplication (elimination).	7.4	5	pg. 454-457 #2-4, 9, 10, 19, 20, 27, 30, 37, 38	no	4	nothing	3/3	5	Done		
I can identify the number of solutions of a linear system.	7.5	4	pg. 462-465 #1-7, 14, 16-21	no	5	nothing	3/3	5	Done		Y N
I can solve systems of linear inequalities.	7.6	5	pg. 469-472 #3-8, 10, 15, 16, 24, 25, 30, 36, 37	no	5		Was not on Test				
	Chapter Review										

*Spiral Review - not part of the learning target

45/50

Chapter 8 Learning Plan

Level of Mastery (L.O.M.):

- 5 - I understand this skill and can teach it to someone else.
- 4 - I understand this skill and rarely make mistakes.
- 3 - I sometimes make mistakes, but I know how to correct them - I still need practice.
- 2 - I struggle with this skill but understand the main idea - I need practice.
- 1 - I struggle with this skill and I'm not sure where I am going wrong.

Important Dates	
Quiz 8.1-8.3	8.1-9.2 10/14 5/10
Quiz 8.4-8.6	
Project Due	
Test - all HW due	

Plan of action ideas	
	1) Review notes (in class or online)
	2) Practice new problems
	3) Look in textbook
	4) Use classzone.com (@HomeTutor)
	5) Ask a classmate for help
	6) Ask parent or teacher for help

Learning Target	Section	After notes L.O.M.	HW odd or odd	HW done?	HW that needs fixed? Topics to work on?	After HW L.O.M.	Plan of action	Quiz score	After quiz L.O.M.	Revision Wkst Done?
I can use the properties of exponents with products. 1-16-12	8.1	5	Pg. 492-494 #3, 4, 7, 9, 12, 13, 19, 20, 24, 25, 32, 33, 36, 39, 42, 44, 47	✓	Properties	5	nothing	7/10	4	✓
I can use the properties of exponents with quotients. 1-17-12	8.2	5	Pg. 498-501 #1, 4, 7, 10, 11, 14, 16, 21, 25, 30, 31, 36, 38, 39	✓	Properties	5	Nothing	7/8	5	✓
I can evaluate expressions with a zero exponent. 1-18-12	8.3	5	Pg. 506-508 #8, 10, 35	✓	look over	5	Nothing	4/5	3	✓
I can simplify expressions with negative exponents. 1-18-12	8.3	5	Pg. 506-508 #5, 6, 12, 13, 15, 16, 20, 24, 26, 28, 30, 32, 33, 36, 39, 42	✓	look over	5	Nothing	4/5	4	✓
I can apply the properties of exponents to operations with numbers in scientific notation (multiply, divide, powers) 1-19-12	8.4	4	Pg. 515-518 #1, 6-8, 11, 12, 20, 22, 24, 33, 35, 39, 40, 43, 45, 52, 54	✓	look over	4	nothing	4/5	5	✓
I can write and graph exponential growth models. 1-23-12 1-24-12	8.5	5	Pg. 523-527 #4, 9, 13, 15, 20, 22, 28, 34	✓	look over	5	nothing	5	4	✓
		5	Pg. 523-527 #1, 2, 21, 38, 40, 43, 44, 47, 49	✓	look over	5				
I can write and graph exponential decay models 1-25-12	8.6	5	Pg. 535-537 #3, 7, 12, 16, 19, 32-34	✓	look over	4	nothing	8.5	4	✓
		5	Pg. 535-537 #1, 2, 21, 23, 27, 35, 40, 47, 48	✓	look over	4				
I can use exponential models to solve real-world problems.	Project		Packet	✓				3.5	5	✓
I can identify the domain and range of exponential functions.	8.5 & 8.6	5	Pg. 523-527 #13, 15, 20, 44 Pg. 535-537 #7, 12, 16	✓	look over	4	nothing	3.5 3.5	5	✓
	Ch. Review Page 543		10 Problems pg. 543	✓						

45/45