

West Deptford Township School District

Algebra I Parent Guide and Resources for PEARSON

General Guidelines

1. Math instruction now focuses more on **problem solving, reasoning, and understanding** in addition to efficient computation.
2. Learning tasks are designed to develop concepts, not just promote efficient computation therefore a young child will build **deep understanding** that leads to **better skills and fluency**.
3. **Struggle means your child is learning**. When a student is putting in effort to think, the brain is creating new pathways and connections. We call this “cognitive sweat.” In fact, the very first math standard for all K-12 students is *Make sense of problems* and **persevere** in solving them. Help your child build that perseverance by allowing him or her to work through a difficult problem solving task without first memorizing the shortcuts.



Homework Tips

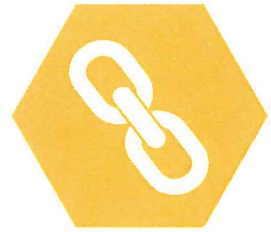
- Communicate with your child to support when needed:
 - Refer to notes from class.
 - Note questions that were challenging.
- **Parents should not be re-teaching** during every assignment. See the next section for suggestions about ways you can help when you don't understand all the math.
- Use the **many online tools** from the program to support student work at home.



Online Resources

All of the following are available to students to support their learning:

- Khan Academy
- Desmos
- Mr. Stanwood's Google Classroom
- Online Textbook
- Online Glossary to define vocabulary



Assessments

Informal

- Homework
- Lesson Quiz

Formal

- Chapter Test/Quiz
- Midterm (10% of S1) & Final (10% of S2)



Skills Instructed by Chapter

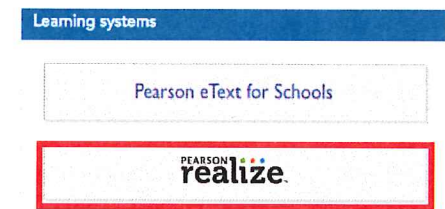
Chapter Title	Common Core Conceptual Categories and Domains	
1 Foundations for Algebra	Number and Quantity Algebra	The Real Number System Seeing Structure in Expressions
2 Solving Equations	Number and Quantity Algebra	Quantities Creating Equations Reasoning with Equations and Inequalities
3 Solving Inequalities	Algebra	Creating Equations Reasoning with Equations and Inequalities
4 An Introduction to Functions	Algebra Functions	Reasoning with Equations and Inequalities Interpreting Functions
5 Linear Functions	Functions	Interpreting Functions Building Functions
	Statistics and Probability	Interpreting Categorical and Quantitative Data
6 Systems of Equations and Inequalities	Algebra	Creating Equations Reasoning with Equations and Inequalities
7 Exponents and Exponential Functions	Number and Quantity Functions	The Real Number System Building Functions Linear, Quadratic, and Exponential Models
8 Polynomials and Factoring	Algebra	Arithmetic with Polynomial and Rational Expressions Seeing Structure in Expressions
9 Quadratic Functions and Equations	Algebra	Creating Equations Reasoning with Equations and Inequalities
	Functions	Interpreting Functions Linear, Quadratic, and Exponential Models
10 Radical Expressions and Equations	Algebra Geometry	Reasoning with Equations and Inequalities Similarity, Right Triangles, and Trigonometry
11 Rational Expressions and Functions	Algebra Functions	Arithmetic with Polynomial and Rational Expressions Interpreting Functions Reasoning with Equations and Inequalities
12 Data Analysis and Probability	Statistics and Probability	Making Inferences and Justifying Conclusions Interpreting Categorical and Quantitative Data Conditional Probability and the Rules of Probability

Supporting Your Child At Home

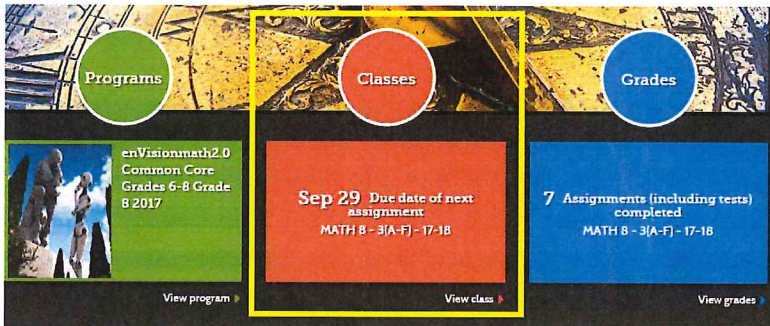
- Have your child log in to their Power Student/Parent Account
- Select “Pearson Courses” underneath the Navigation tab



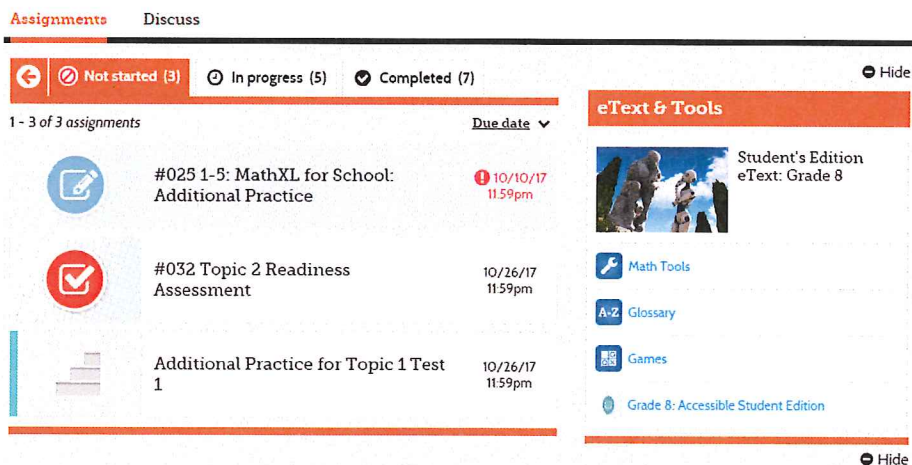
- Select “Pearson Realize”



- Select “Classes” to view your work



- Access assignments and additional math resources



Standards for Mathematical Practice: A Guide for Parents

Practice Standard	What it Looks Like: <i>Your child might...</i>	Questions to Ask
1. Make sense of problems and persevere in solving them.	<ul style="list-style-type: none"> ● puzzle over the meaning of a problem. ● plan an outline of a solution path instead of just jumping in. ● start and stop and start again a different way. ● look at other problems she did to look for ideas. ● use concrete objects or pictures. 	<ul style="list-style-type: none"> ● What are you asked to figure out? ● Can you think of a problem you solved before that is like this one? ● What information is here that might be useful? ● What is your plan for solving this? ● Does your solution make sense?
2. Reason abstractly and quantitatively.	<ul style="list-style-type: none"> ● break a problem apart and represent the parts with objects, pictures, words, or symbols. ● organize information in different ways. ● write number sentences to represent meaning. ● explain the meaning of symbols. 	<ul style="list-style-type: none"> ● Can you write an equation (number sentence) or expression to match the problem situation? ● What do the numbers or variables refer to? ● Can you explain that equation in words? ● How did you decide to use this operation?
3. Construct viable arguments and critique the reasoning of others.	<ul style="list-style-type: none"> ● talk confidently about math using mathematical language fluently. ● practice math vocabulary. ● justify a solution by explaining its logic. ● give a counterexample to disprove a statement. ● recognize when logic is flawed and suggest ways to improve it. 	<ul style="list-style-type: none"> ● What does your answer mean? ● How do you know your answer is correct? ● Are there other correct answers to this question? How do you know? ● If I told you the answer should be _____ (give a wrong answer), how would you convince me I'm wrong?
4. Model with mathematics.	<ul style="list-style-type: none"> ● use math to solve real world problems and problems with more than one solution. ● organize data to understand something happening in the real world. ● use "found" information to create and solve his own problems. ● interpret mathematical answers in context. 	<ul style="list-style-type: none"> ● Can you make a model of this with objects, pictures, or symbols? ● Is there an equation or expression that would represent part of this situation? ● What does that answer represent in real life? ● Is there something interesting we can find out from this collection of data?

Practice Standard

What it Looks Like: Your child might...

Questions to Ask

<p>5. Use appropriate tools strategically.</p>	<ul style="list-style-type: none"> ● choose for herself when to use a tool such as a ruler, protractor, or calculator to help solve a problem. ● decide for herself when to use mental math, paper and pencil, a calculator, or computer program. ● use estimation appropriately. ● use a table, graph, or spreadsheet to organize complex data. 	<ul style="list-style-type: none"> ● What tools can you use to help you solve this problem? ● How can this tool help you? Is there a better tool? ● How can you organize this information to help you solve the problem? ● Is there a different way to organize it that might be better?
<p>6. Attend to precision.</p>	<ul style="list-style-type: none"> ● use clear and precise math language and accurate terminology (<i>sum</i> or <i>product</i> instead of "answer"). ● use precise numbers and labels. ● explain exactly what she is confused about. 	<ul style="list-style-type: none"> ● How do you know this is an accurate answer? ● What do you mean when you say ___? ● Is there a more precise word you could use? ● What units does that represent?
<p>7. Look for and make use of structure.</p>	<ul style="list-style-type: none"> ● recognize patterns and look for them when they aren't obvious. ● sort objects, pictures, or numbers into groups. ● use the structure of math to help solve problems (e.g. fact families or the distributive property). ● try ways to break numbers apart and put them together in different ways to make a problem easier. 	<ul style="list-style-type: none"> ● Do you see any patterns? ● Can you group these things in a way that makes sense? Is there another way of grouping them? ● Can you take the numbers apart and put them together in a different way to make more sense? ● What do you notice about the answers to the exercises on this page?
<p>8. Look for and express regularity in repeated reasoning.</p>	<ul style="list-style-type: none"> ● find his own shortcuts that work to solve problems. ● create strategies from repetitions that show up in his work. ● generalize about a strategy to apply it to other kinds of problems. ● create a rule out of a pattern of exercises and solutions. 	<ul style="list-style-type: none"> ● Do you notice anything interesting about these problems? Is there a pattern to what you notice? ● Is there a shortcut that will always work for this kind of problem? How do you know it will always work? ● Is there a rule that seems to be true about this pattern of numbers? Can you prove the rule is true? ● What are the connections between this and other kinds of problems with similar numbers?