## UNIT OF STUDY <br> \#3

| Title: solve basic absolute value equations Length: 2 weeks <br> Topic: absolute value equations Grade: 10th | Subject/Course: $10^{\text {th }}$ Res. Math <br> Designer: K. Henderson |
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| UNIT GOALS AND EXPECTATIONS |  |
| IMPORTANT CONCEPTS/UNDERSTANDINGS: <br> - combine like terms <br> - inverse operations <br> - inequality symbols <br> - order of operations <br> - absolute value | ESSENTIAL QUESTIONS: <br> - What is an absolute value? <br> - When do you rewrite an absolute value equation as a compound equation? <br> - When does an absolute value equation have only one answer or no solution? <br> - What is a solution set? <br> These are excellent questions!! |
| STUDENT LEARNING EXPECTATIONS: <br> *SEI.2.AI. 4 - Solve and graph simple absolute value equations and inequalities (Ex. $\|\mathrm{x}\|=5,\|\mathrm{x}\|$ $\leq 5,\|x\|>5$ ) |  |
| SPECIFIC DECLARATIVE KNOWLEDGE - What I know <br> Vocabulary words - absolute value, coefficient, solution set, isolate, compound statement, disjunction | SPECIFIC PROCEDURAL KNOWLEDGE - What I need to do <br> - write 2 equations when the answer is a positive number ( a positive and negative answer) <br> - write 1 equation when the answer is a zero <br> - solution set is the empty set when the answer to the problem is a negative |
| UNIT ASSESSMENTS <br> (Include tasks related to Dimensions 3 and 4 and Bloom's Taxonomy) |  |
| open response question <br> - requiring the student to use absolute value (application) |  |


| Traditional Assessments: | Other Evidence of Learning: |
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| independent practice worksheets | notes |
| Test | guided practice |
| warm-up quizzes or homework quizzes | observation |
|  | marker board review |
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| ACTIVITIES AND LEARNING EXPERIENCES | Resources |
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| 1.4 step vocabulary to introduce key words from the unit. <br> 2. Lesson 6.1 solve basic absolute value equations * game using the number line - independent activity question "plot a point on the number line four units away from zero" review that both answers are correct because of the positive number. <br> * solve absolute value equation of the form $\|\mathrm{ax}+\mathrm{b}\|=\mathrm{k}$ by rewriting them as compound equations Be sure to use the disjunction "or" here. For instance, in $\|2 x-3\|=11$ we transform to get $2 x-3=11$ or $2 x-3=-11$. <br> This comes from the fact that $\|\mathrm{x}\|=\mathrm{a}$ if and only if $\mathrm{x}=\mathrm{a}$ or $\mathrm{x}=-\mathrm{a}$, when a is a positive number. <br> * identify and solve one solution (0) and no solution (negative number) absolute value equation <br> 3. Lesson 6.2 solve advanced absolute value equations <br> * solve absolute value equations in which the absolute value expression is isolated in one and two steps. <br> 4. marker board review - group review | 4 step worksheet <br> Algebra's Cool DVD program Unit B <br> Algebra/s Cool DVD program Unit B <br> marker board \& eraser |
| Career Connections |  |
| engineers, factory workers. |  |

