Advanced Algebra

What are we learning in Unit 5 – Quadratics?

Self-Ratings:

1: I've never seen this topic and wouldn't even know how to begin.

2: I've heard or seen this before, but don't know how to start or complete the problem.

3: I know the topic and can work through the problem but am unsure whether I am correct.

4: I feel confident that I could present my work and solution to the class.

5: I feel that I could correctly teach this topic to another student if asked. Pre-Unit Mid-Unit Post-Unit

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| **Target** | **Examples** | **Date:** | **Date:** | **Date:** |
| **5A.** Add, subtract and multiply complex numbers | Simplify:1. $\left(-2+i\right)+\left(4+5i\right)$
2. $\left(4-6i\right)-\left(7+2i\right)$
3. $\left(3+5i\right)\left(2-i\right)$
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| **5B.** Solve quadratic equations graphically and algebraically. | Solve:1. $x^{2}+11x+28=0$
2. $4x^{2}-2x-6=0$
3. $9x^{2}=49$
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| **5C.** Use the discriminant to determine the number and type of roots and verify by graphing. | Determine the number and type of roots:1. $f\left(x\right)=7x^{2}+6x+2$
2. $f\left(x\right)=x^{2}+11x+28$
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| **5D.** Solve quadratic equations with complex solutions. | Solve:1. $4x^{2}-2x+7=0$
2. $x^{2}-11x=3x-53$
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| **5E.** Write a quadratic equation in$f\left(x\right)=ax^{2}+bx+c$ form. | Given the roots, write the quadratic in the form $y=ax^{2}+bx+c$. 1. $x=-2$ and $x=4$
2. $x=2+3i$ and $x=2-3i$
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| **5F.** Solve quadratic inequalities graphically and algebraically. | Solve:1. $x^{2}+9x+14>0$
2. $x^{2}-4x-12<0$
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