10/8 (Day 12) Inequalities: Exponents and Absolute Value





Quick visual to share calendar and pacing with students- encourage them to write it in their journals

Quiz 2 Prep reflection & hand back quiz

Fill out the additional page regarding how you studied and prepared for the quiz. When you finish the first 5 questions, let me know and I'll hand back your quiz so you can answer the remaining ouestions. Quick reflection about their study habits for the most recent quiz. Upon completion receive their quiz. 5-10 min.

Warm Up
1. Translate each graphed inequality below into words
2. Then translate each group of words into an algebraic inequality



3. Solve the inequality below and graph it on the number line $\frac{1+6a}{12} \geq \frac{1}{2} \left(a+\frac{3}{2}\right)$

Individual warm up questions building off previous lessons. 5-10 minutes. Then have them discuss answers in table groups 2-3 minutes. Lastly, depending on if I think more time is needed, I'd explain all answers quickly or I'd have volunteers explain different problems.

Directions: Using the digits 0 to 9 at most one time each, fill in the boxes to create an inequality whose solution set is x < 1/2.



Absolute Value Inequalities

Let's think about this idea. What do we think the solutions to absolute inequalities might look like? Why?

Remember: $|x| = \begin{cases} -x, x < 0 \\ x, x \ge 0 \end{cases}$

Introduction of new content. 15-20 minutes. I do examples with student input. Then they have 3 examples to work on -solo or in table groups.



 $^{1.} \leftarrow + + +$

11. 46 = -2(4x - 3) - 2x



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Discover Properties of Absolute Values: Try these problems

Always, Sometimes, Never? To determine how true your conjectures are, do some guess & check work: Let a and be unique real numbers. Choose your own values for a and b. a= b=

|a||b| = |ab|

|a|+|b|=|a+b|

|a|-|b|=|a-b|

Optional: Depending on the pace of the class- it's an inquiry based exploration of a new concept. 5-10 min.

17. $64 \ge 4(1+5x)$

18. $|2x - 1| + 7 \le 5$

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