**📅 Algebra 1 – Week-at-a-Glance**

**Topic:** Rational and Irrational Numbers  
**Week:** October 20–24, 2025  
**Standards:**

* **MGSE9–12.N.RN.1**: Explain how the definition of the meaning of rational exponents follows from extending the properties of integer exponents.
* **MGSE9–12.N.RN.2**: Rewrite expressions involving radicals and rational exponents using the properties of exponents.
* **MGSE9–12.N.RN.3**: Explain why the sum or product of a rational number and an irrational number is irrational.

| **Day** | **Learning Target (LT) & Success Criteria (SC)** | **Activation of Learning (5 min)** | **Focused Instruction – I DO (10 min)** | **Guided Instruction – WE DO (10 min)** | **Collaborative Learning – Y’ALL DO (10 min)** | **Independent Learning – YOU DO (10 min)** | **Closing (5 min)** |
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| **Mon 10/20** | **LT:** I can tell the difference between rational and irrational numbers. **SC1:** I can name examples of rational and irrational numbers. **SC2:** I can explain why a number fits in a category. | **KWL Chart** – Students fill in “Know” and “Want to Know” sections about number types. | **Direct Instruction + Anchor Chart** – Teacher defines rational vs. irrational using real-life number examples (fractions, decimals, √2, π). Think-aloud to model classification. | **Graphic Organizer** – Together, complete a T-chart with sample numbers, deciding if each is rational or irrational and explaining why. | **Think-Pair-Share** – Pairs sort number cards and explain their reasoning to each other before sharing out. | **Quick Practice Worksheet** – Classify 10 numbers independently and write why. | **Exit Ticket** – Students write one example of each type of number and explain why. |
| **Tue 10/21** | **LT:** I can explain what happens when you add or multiply rational and irrational numbers. **SC1:** I can describe patterns in the sums and products. **SC2:** I can solve simple problems using these patterns. | **Anticipation Guide** – True/False: “The sum of two irrational numbers is always irrational.” Students predict, then revisit after lesson. | **Worked Examples + Think-Aloud** – Teacher models adding/multiplying rational + irrational, highlighting why results are irrational or rational. | **Error Analysis**  – Students identify and fix mistakes in sample problems on board. | **Team Problem Solving**– Small groups solve and justify “rational vs irrational” operation problems; groups check each other’s reasoning. | **Independent Practice** – Short problems: classify results of operations. | **3-2-1 Summary** – 3 things learned, 2 interesting facts, 1 question. |
| **Wed 10/22** | **LT:** I can convert between radical and rational exponent forms. **SC1:** I can rewrite radicals as rational exponents. **SC2:** I can solve simple problems using these conversions. | **Quick Write** – “What do you remember about exponents?” | **Modeling with Think-Aloud**– Teacher shows how √x = x^(1/2), ∛x = x^(1/3), etc., explaining step by step. | **Guided Instruction** – Fill-in conversion chart together (radical ⇄ exponent form). | **Jigsaw Strategy** – Each group becomes “experts” on one type of radical (square, cube, nth), then teaches their peers. | **Practice Problems** – Convert 8–10 radicals to rational exponents and vice versa independently. | **Exit Ticket** – Convert √5 to exponent form and explain the step. |
| **Thu 10/23** | **LT:** I can solve problems with rational exponents using properties of exponents. **SC1:** I can simplify expressions with rational exponents. **SC2:** I can explain each step clearly. | **Do Now – Notice/Wonder** – Show simplified vs. unsimplified expressions. Students list what they notice/wonder. | **Direct Instruction** – Teacher reviews exponent properties and applies them to rational exponents using clear steps | **Reciprocal Teaching**– In groups, students working on problems together. | **Collaborative Annotation** – Students annotate worked examples, highlighting key exponent rules and notes. | **Independent Practice**– Simplify expressions | **One-Minute Summary**  – Students explain in one sentence how rational exponents work. |
| **Fri 10/24** | **LT:** I can apply everything I learned this week to classify and solve rational/irrational problems. **SC1:** I can identify number types correctly. **SC2:** I can solve mixed problems with accuracy. | **Engaging Video (Real-World Context)** – Short video: Where irrational numbers appear in real life (e.g., π in architecture). Students respond to prompt: “Where do you see these numbers in life?” | **Mini-Review - Worked Examples** Teacher models mixed problems, reviewing all week’s concepts. | **Teacher-Led Small Group** – Quick reteach for students needing support, while others complete review stations. | **Gallery Walk** – Students move through stations solving problems with a partner | **Performance Task** – Mini-assignment: Solve & explain a real-world problem involving both rational and irrational numbers. | **Revisit Learning Target** – Students self-rate understanding and share one thing they improved on this week. |