

Solving Equations by Systematic Trial

---Sketch Title



Sketch Filename: Equations.gsp

Movie Filename: Equations.mov

Math Concept(s)

Suggested Grades

Sketchpad Level

Equations

- 7
- 8
- 9 Applied

Easy
- drag points and click buttons

Beginner
Intermediate
Experienced

Learning Goals:

- Solve simple equations using guess and check
- Demonstrate the narrowing process of systematic trials

“Sketchy” Description:

This 13-page sketch includes:

- the use of an activity file to demonstrate the process of systematic trials using a context
- practice using guess and check method with five different forms of equations
- print a page to record students' process

Lesson Plan Suggestions

- description of how the sketch might be used in each of the three lesson parts - *Minds On, Action!, Consolidate.*
- includes student groupings, instructional strategies, and connections to manipulatives or other technologies.

Minds On - Teacher demonstrates “A Yummy Problem” as shown in video.

- Students use thumbs up or thumbs down to direct teacher actions

Action! - Photocopy student handout

- Preview sketch with students
- Have students work in pairs or individually to complete practice questions

(Note: To differentiate instruction a diagnostic activity can be done in advance to determine which form of the equation students should select.)

Consolidate - Ask students to explain how they narrowed down their estimates to reach a final answer using

Think-Pair-Share

- Have students demonstrate the process

Extensions:

- Similar to practice activities however equations involve decimals or large whole numbers

Questions or activities for students/parents to explore together:

1. How do you know this is an equation?
2. Explain how you narrowed your estimates down to reach your final answer?
3. How many trials does it usually take you to get to your final answer?
4. Explain how you choose your first estimate?